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Laskentatoimen laitos

Salainen 17.5.2002 asti

Budgeting in a Knowledge-based Organisation - Case Hewlett Packard

Laskentatoimen Pro-Gradu tutkielma
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Kevätlukukausi 1999

Laskentatoimen laitoksen
laitosneuvoston kokouksessa 18 / 5 19 99 hyväksytty
arvosanalla erinomainen (80p)
KTT Kalervo Virtanen KTT Veijo Riistama

1. Introduction

1.1. Background and Motivation for Research

When scientific models are created they are often simplified by assuming some variables to be constant or that the outcome of certain environmental factors is known exactly. However, one of the first things business students are taught is that absolute certainty does not exist in the real world. So far, nobody has been able to tell the future accurately not even when consider weather forecasts for next day. However, the link between the uncertainty of weather and the business environment might sound distant according to studies of the chaos theory, the factors behind uncertainty are quite similar (Gleick 1987).

To face the uncertainty, companies have developed planning models to predict the possible future states of the environment and form action plans based on these scenarios. Planning in a company is often divided into different processes depending on the time frame and scope of interest involved. Some plans deal with organisations long-term objectives in a time frame of several years and others are concerned with short-term goals, maybe within a few days or weeks. An example of the former could be a company's mission statement and of latter treasury's short-term liquidity planning. However, many of the processes are rather unique in different organisations most companies have some kind of regular budgeting process. According to accounting literature, budget should form financial and operational frames for the budget period in harmony with organisation's long-term objectives, as well as help to anticipate challenges and concentrate resources as effectively as possible.

However, there have been arguments in many companies that this is not always the reality. According to critics, budgets are sometimes obsolete even before the actual budget period begins. Traditionally, budgets have been set annually for a fiscal year. The preparation of next year's budget is sometimes begun as early as after the second quarter. On a market where the business cycles are not measured in years but in months or even in weeks an annual budget might not be a very good tool for directing the operations during the second half of the year. On such market the probability that the environment has changed since budgeting is rather high. In the worst case this can

result in lost business opportunities, as customers demand something they are not budgeted to want.

Another argument of criticism is concerned with the lost linkage to the organisation's long term strategies. Although, the strategy is, or at least should be, the starting point for budgeting it sometimes gets lost as the focus of the process is on details. If the planning process concentrates on numerous line items, there is a danger that it degenerates into tedious number crunching and form filling exercise. In the worst case the result is a document that has consumed too much people's time and huge amounts of paper and still fails to capture the essential information needed in the guidance of the organisation. Robin Fraser, the leader of Advanced Budgeting Study Group set up by the Consortium for Advanced Manufacturing International (CAM-I), describes a worst case scenario of budgeting: *"At worst the traditional budgeting process starts with management setting revenue forecast and budget goals. Department budgets are then prepared based on last year's costs and year-to-date actuals, plus or minus a bit. These are then reduced by across-the-board cuts in an effort to force fit them to the financial targets. An uneven negotiation between the budgetholder and senior managers follows and the budget is then 'agreed'."* (Newing, 1994a)

The response the critics often get is that the current system has proven its effectiveness over the years. Despite its inefficiencies and rigidity it has been able to produce year after year documents that have enabled management to guide the organisation. It is, however, generally agreed that both external and internal changes are at the moment taking place in the business environment. The combined effect of global competition, commercialisation of technology, and new management techniques has changed 'the rules of the playground' significantly. The market place has become volatile, highly competitive and customer driven. At the same time, the ways companies define themselves internally as well as in relation with their customers and vendors are transforming. As the interaction along the value chain increases the line between different organisations becomes more vague. The core of the company is not anymore a collection of different functional departments but processes that stretch across functions along the physical flow of goods and, increasingly, information. In fact, knowledge, or intellectual capital, has replaced capital and labour as the key competitive constraint in many organisations.

1.2. Research Problem and Limitations

Although, the importance of budgeting in organisation's planning cannot, and should not, be denied one can argue that many of the current budgeting models were developed for an environment significantly different from the current. The challenge set for management control systems is to support the advances without losing control. Therefore, the goal of this paper is to explore the role of budgeting in the changing organisational environment. This can be divided into the following sub-objectives:

1. Explore the requirements the new organisational environment sets for management accounting system in general and budgeting in particular.
2. Define a budgeting framework to meet the requirements of the new organisational environment.
3. Analyse the budgeting system presented in the case study within this framework.

One has to be careful in generalising about a certain theory or model to meet the requirements of all organisations. Organisations' control systems have different requirements depending on both external and internal factors. The requirements can vary even within the same company. This paper concentrates on the problems and challenges of budgeting in a large organisation that operates on a fast-paced market utilising information in many of its processes. According to researches, the problems of budgetary control and communication tend to increase with organisation's size. Furthermore, if the company wants to be an effective player on a market requiring continuous adaptation and fast responses to customer demands, its internal processes have to be as effective as possible.

1.3. The Structure of the Paper

The second chapter of this paper concentrates on the changes the business environment is going through. Since the 1920's the multidivisional, M-form, organisation has been the primary structure employed by large firms. However, in recent years some managers and organisations have started to explore new ways to organise companies. Some students of organisational theory are arguing that the M-

form is already being replaced by a knowledge-based *N-form organisation*. To be able to produce valid material for the purposes of management also accounting has to be prepared to change its processes to meet the requirements of new organisational environment. The last part of the chapter concludes the challenges set for accounting systems.

The goal of the third chapter is to discuss how budgeting process could be developed to better align with the requirements of the N-form organisation. The first part of the chapter focuses on the role and objectives of budgeting in organisation's planning process. The next part analyses reasons for criticism against the current budgeting processes to define a basis for the development of budgeting. Finally the chapter defines a framework for so called flexible budgeting system.

The fourth chapter concentrates on the practical issues concerned with the implementation of the budgeting framework discussed in the previous chapter. It illustrates the tools and models that are consistent with and which support the presented financial planning framework.

The fifth chapter consists of a case study written in co-operation with Hewlett-Packard. The case study analyses an existing budgeting system using the framework discussed in the earlier parts of the study and aims to develop suggestions for the further development of process.

2. The Changing Environment of Business

The famous management consultant Peter Drucker has said: "*Business is not in a recession but in a fundamental transition.*" (Bunce et al 1995, 253) It is generally agreed that at the moment dramatic and irreversible change is taking place in many companies. This change, or transformation, is largely a result of the pressures from companies' external environment. Nowadays it is almost impossible to do business taking only the local environment into calculations. It is a fact that today's business and competition is global and fast paced. The commercialisation of technology, fast and reliable communication networks as well as new management techniques have given the word *information* a whole new meaning. Today the information and utilising it are among the most important factors of competition. Markets are characterised by large volatility and customer driven solutions, which in many cases result in rapid changes across the operations of a company.

In other words, the actors at the playground of the global economy have to be able to adapt their operations flexibly and simultaneously have consistent objectives to guide them. As a result of external pressure, a set of internal factors has started to affect some organisations from within. Intellectual capital has become one of the key assets of a company. Skilled workers, competent managers, effective systems, loyal customer relationships, and strong brands are, and will increasingly be, among the most critical competitive constraints. According to Hope and Fraser (1997) this intellectual capital represents a remarkable percentage of many companies' market value. As seen in figure 2.1. this applies to manufacturing as well as high tech and service organisations. It is probably not a big surprise that non-fixed assets, intellectual capital, forms over 90% of the market value of a strong brand leader such as Coca-Cola. However, it is a little bit surprising to notice that it represents over 80% of the value of engineering giants, such as General Electric and ABB. It is recognised that the future cash flows result in many cases from an effective management of intellectual assets.

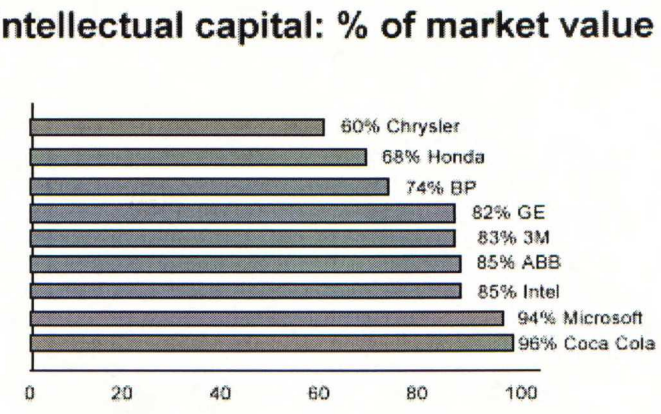


Figure 2.1. Amount of intellectual capital from market value. (Hope & Fraser, 1997)

As mentioned above, effective companies have to be able to meet customers' exact needs, which often means leveraging knowledge to bid contracts, solve problems, provide superior service or offer customised products, rather than investments in new production facilities. According to Freeman (1997), there are many obstacles in the way of the information and process flow in *traditional functional* organisation as the value chain spreads on the territories of many different functions. If the needs of a customer are, for one reason or another, secondary to the personnel of a function, the result will be a delay and, in worst case, a lost customer. There has been a need to develop organisational structure to correspond better with the process flow. In practice this means abandoning functional silos and the focusing on actual value chains that create value added to the customer.

2.1. Process-Based Organisation

The objective of a process-based organisation is that everybody from the floorboard level to the highest executives considers the needs of the customer. The base of the organisational structure is not the different functions performed but the value chains of the company. It is necessary to recognise core processes adding value to the products or services and integrate personnel, technology, and information involved. People have to identify their position in the process of creating value for the customer.

An example of an electronics company illustrates the difference between functions and processes. The company had different departments handling each of the five steps between sale and installing the equipment for a customer. One group determined

customer requirements, another translated them into internal product codes, a third communicated information to plants and warehouses, a fourth received and assembled components while a fifth group delivered and installed the equipment. Although, the order moved systematically, many internal handoffs of information were responsible for errors and misunderstandings. Also, a question about customer requirements later in the process had to be referred back to the first group, which caused delay and rework. As company understood that it has to manage one process instead of five functions it introduced a new person, *customer service representative*. This person oversees the whole process from the taking of an order to delivery. Both delivery time and quality of service have improved as customer has only one contact who always knows and follows the status of process. (Hammer, 1990)

Of course, everybody wants to ask why such inefficient processes have been designed in the first place. In a way, most processes have not been designed at all. They have just taken such form as time has passed. Every company operates according to numerous unwritten rules, such as "*Credit decisions are made by the credit department*" or "*Local inventories are needed because of customer satisfaction*". The purpose of process reengineering is to recognise and break away from possibly outdated rules. Its aim is not to learn what happens to form 73B but to understand the purpose of having form 73B in the first place.

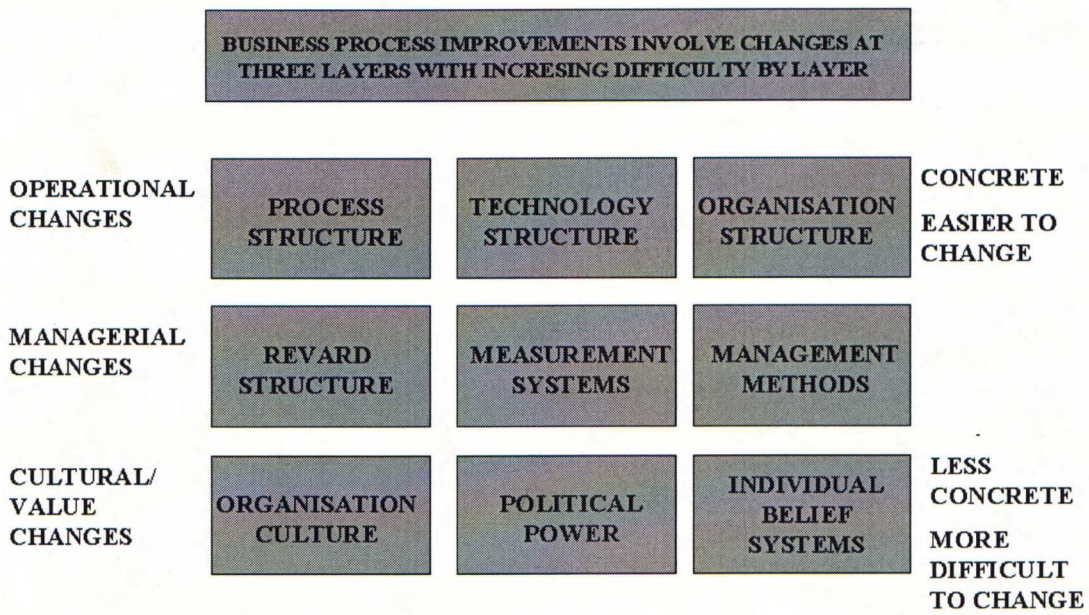


Figure 2.2. 3 layers of organisational change. (Freeman ,1997)

The operational changes are, however, insufficient. The examples show that re-engineering only operations, work and information flow, system enablers and organisation chart can result in lost time and money. After process maps have been folded and rolled the activities continue as before if there is no change at more profound level. Freeman (1997) argues that in order to succeed the change has to affect three layers of the organisation, as described in figure 2.2. As the transformation efforts face deeper levels of organisation, it gets more difficult to achieve results. James Champy (1995), one of the persons introducing the concept of reengineering late 1980's, agrees that the original focus was in *reengineering work* and projects have often neglected the managerial side. In renewed organisation old command-and-control techniques do not work any more. Implementation of process based organisation requires abandonment of ideas of agency theory. The theory assumes that human beings are essentially unreliable and limited, and therefore must be forced to duty by chains of command. Increased responsibility of an individual means also increased authority. Admitting this is not always easy. A manager summed up the challenge set for management control systems: *"Now that we have empowered the local managers, how do we control them?"* (Allen 1994)

2.2. The Knowledge Organisation

In his doctoral study Karl-Erik Sveiby (1994) argues that among the service companies there has developed something that could be called *knowledge organisation*. The key resource of such company is not the financial capital but human being and the knowledge he or she possesses. Without the contribution of a few key people company's business idea would be in jeopardy. As the key asset, knowledge, is tied to abilities of people it is not only hard to measure but also highly mobile.

The knowledge organisation can also be distinguished from other service companies by the complexity, creativity and uniqueness of the output. The core competence of such organisation is ability solve customers' problems better than its competitors. The spectrum of service companies is presented in figure 2.3. Typical knowledge organisation at the left end of spectrum finds it very hard to standardise its operations. Because it cannot force its customers to adapt, company has to adapt according to

their needs. A surgeon operating a patient or a lawyer preparing a brief for a client can be seen as an example of a service provider whose products cannot be 'industrialised'. On the other hand, a fast food chain is a good example at the other end of the spectrum. Its service could almost be held as a form of industrial production with standardised products and processes including highly developed logistics. The complex and creative output of the knowledge organisation and more standardised industrial service production can, and do, often co-exist within same organisation. Banks are typical examples of such companies. Their branch employees take care of the routine transactions at the counter as others are engaged with complex, individual problem solving, such as corporate finance, cash management and portfolio administration. (Sveiby & Lloyd, 1987, 18-20)

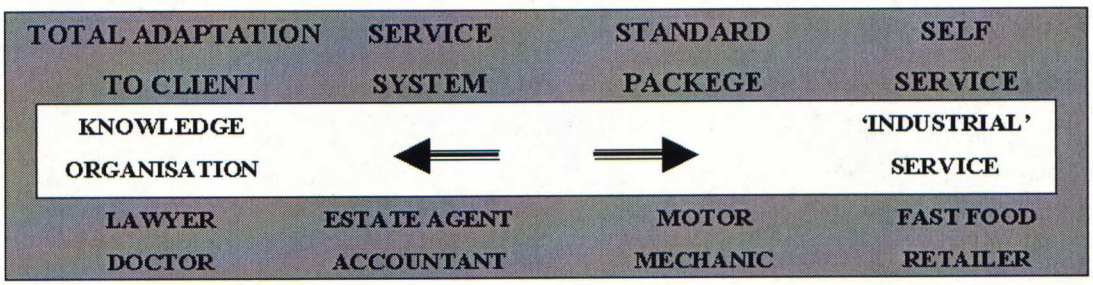


Figure 2.3. The spectrum of service companies from traditional service companies on right to knowledge organisations on left. (Sveiby & Lloyd, 1987, 18)

The core of knowledge organisation consists of group of *professionals* who are the source of revenue. They are the heart, or rather the brain, of the business around which the rest of the company is structured. A hospital is a good example of an organisation that would be paralysed if the professionals, doctors, were removed. Although, professionals usually do not want to be 'managed' by others they are as often unable and unwilling to manage other people. Therefore, *managers* with a high level of organisational know-how are needed. They lack the professional knowledge of professionals but are able manage *the clerical staff* supporting the business and taking care of the bureaucracy and administrative tasks. The *leader* is the driving force and often more or less irreplaceable. He or she is often an ex-professional who has developed managerial abilities. Leaders seldom need to be formally appointed as they receive their mandate from colleagues. (Sveiby & Lloyd, 1987, 58-63)

The basic structure of knowledge based organisation can not be illustrated by hierarchical organisation chart. The value creation is to a large extent based on human

relationships and, therefore, some sort of network describes the structure best. Tree-like diagrams describe legal relationships well but fail to show how ideas and know-how interact within and outside the company. Sveiby and Lloyd (1987, 56) state: *"In a way networks of both digital and personal kinds are what professional organisations are all about."* They also argue that flexibility and dynamism are the key features of the structure. This does not mean that stable structures should not exist. Strong and firm corporate culture is part of organisation's informal structure binding people together. Authors see accounting system as very important among the few stable structures as it enables management to monitor and control activities through continuous flow of reports. The problem, however, in setting up the process is that the attitude in these companies tends to neglect long-term structures, believing such things to be trivial compared to the need to expand the business. Furthermore, the company often lacks the enormous flow of paper work and administrative routines associated with flow of goods.

The previous chapter focused on the importance of organisation's processes and this chapter illustrated the role of knowledge. These views are incorporated by a theory of so called N-form organisation presented in the following chapter.

2.3. Transformation from M-Form Organisation to N-Form Organisation

After the First World War, as a result of the advances in manufacturing processes and marketing networks, large enterprises adopted an explicit strategy of diversification into new products for new markets. Until that time, large enterprises were mainly organised along functional units, i.e. manufacturing, administration sales etc. However, as the level of diversification increased the management faced administrative problems. The middle management was unable to handle different co-ordination requirements of several lines of business and the top managers found it difficult to supervise and allocate resources for markets that each had their own special characters. The answer to these problems was the multidivisional, M-form, organisation. The corporation was organised into discrete divisions, each responsible for a separate product lines and markets. The divisions had their own functional departments and were given a considerable amount of operating autonomy. The top management's role consisted mainly of setting the overall strategy of corporation and

allocating resources between units. (Laudbacher et al. 1997) The M-form organisation is characterised by strictly defined organisation structure and hierarchy. The divisions are profit centres that have their own functional hierarchy. In a way, the basic structure of M-form organisation resembles the ideas of Taylorian management science or Henry Ford. The operational decision making and responsibility is divided along the same ideas as the manual labour. Further down one moves in the organisation more closely defined are the responsibilities of a manager. Each manager is expected to concentrate on the specific responsibility area. The approach requires effective vertical communication channels so that information is transferred between different levels of organisation

Since the 1920's the M-form organisation has been the primary structure employed by large companies. It proved to be powerful as it redefined the management roles and distributed the operational decision making to operation divisions whose activities were co-ordinated, planned and controlled by a strong corporate management. (Bartlett & Ghoshal, 1993) Hedlund (1994) illustrates in his article an organisation model, which he calls the N-form[1] organisation. He describes it as a follower of the multidivisional M-form organisation. The analysis is not based on physical structure of the organisation but on the role of information and knowledge, which were already earlier mentioned to be one of the key resources in today's business. Hedlund argues that efficient *knowledge management* requires departure from the logic of hierarchical organisation in general and M-form in particular. Also, Hope and Fraser (1997) state that M-form whose base is in the divisional hierarchy was efficient and necessary at its time (1920s to 1970s) as financial capital was the key strategic resource. However, in today's business environment the model is too bureaucratic, rigid and unresponsive.

2.3.1. Knowledge Types in an Organisation, and Transfer and Transformation Process

Hedlund's objective is rather to describe how knowledge is transferred or transformed than its storage. In his framework knowledge is divided into two categories, tacit and articulated knowledge. *Tacit Knowledge* (TK) is defined as non-verbalised (and even

[1] Letter N was chosen because it stands for "New" and "Novelty" as well as it comes right after M.

non-verbalisable), intuitive and unarticulated. On other words, it can be described as deeper values, assumptions and skills that are not written down into manuals and checklists. *Articulated Knowledge* (AK) is specified verbally or in writing, computer programs, patents, drawings or the like. Furthermore, the model distinguishes three aspects of knowledge within the main categories: *cognitive* knowledge in the form of mental constructs and precepts, *skills* and knowledge *embodied* in products. The second dimension of the framework is the level of carriers, or agents, of knowledge. Four levels of carriers are distinguished: the *individual*, the small *group*, the *organisation* and *inter-organisational domain,* which consists of important customers, suppliers, competitors etc. Figure 2.4. presents these two dimensions together as well as examples of 8 types of knowledge so defined.

	INDIVIDUAL	GROUP	ORAGANISATION	INTER-ORGANISATIONAL GROUPS
ARTICULATED KNOWLEDGE Cognitive Skills Embodied	KNOWING CALCULUS	QUALITY CIRCLE''S DOCUMENTED ANALYSIS OF ITS PERFORMANCE	ORGANISATION CHART	SUPPLIERS' PATENTS AND DOCUMENTED PRACTICES
TACIT KNOWLEDGE Cognitive Skills Embodied	CROSS-CULTURAL NEGOTIATION SKILLS	TEAM COORDINATION IN COMPLEX WORK	CORPORATE CULTURE	CUSTOMERS' ATTITUDES TO PRODUCTS AND EXPECTATIONS

Figure 2.4. Different types of knowledge in an organisation. (Hedlund, 1994)

There is, of course, nothing new in the fact that knowledge exist not only at the individual level and, as mentioned above, the focus of the paper is more in interaction between these knowledge groups. This interaction takes largely place, both between and within organisations, through product flows. The information is transferred both within and between carrier levels. Figure 2.5. illustrates different types of knowledge flows in the model form which three basic sets of concepts can be distinguished:

- *Articulation* and *internalisation,* presented by the vertical arrows in figure 2.5., constitute together *reflection.* Reflection is interaction between tacit and articulated knowledge within a carrier group Articulation, i.e. tacit knowledge being made explicit, is especially important in the case of integrating an acquired organisation. In order to integrate two different types of organisation cultures the values and beliefs have to be documented before they can be communicated effectively. Internalisation,

on the other hand, takes place after articulated knowledge becomes so self-evident that it lives without any formal documentation.

- *Extension* and *appropriation* presented by horizontal arrows in figure 2.5. illustrate the interaction, *dialogue*, between carrier groups. It is good to notice that dialogue takes place also at the tacit level. Craftsmanship like skills and corporate cultures probably develop and transfer largely though tacit dialogue.

- *The expansion* of knowledge within the system is achieved by the effective combination of both reflection and dialogue. The educational process can be thought as an example. The learning is achieved by combining the dialogue between the teacher and a student to reflection between student and book in home of in library.

- *Assimilation* and *dissemination* refer to knowledge imports and exports to environment on both tacit and articulated level.

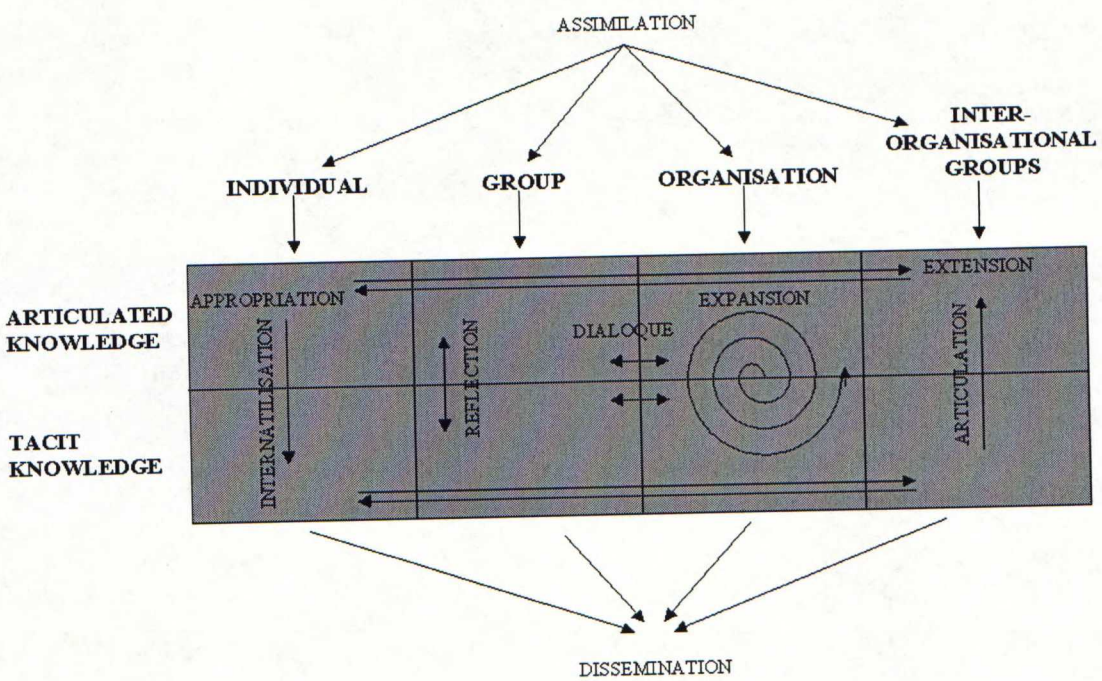


Figure 2.5. Different types of transfer and transformation methods (Hedlund, 1994)

2.3.2. Knowledge Management in Western and Japanese Organisations

Hedlund and Nonaka (1993) have studied differences in knowledge management between Japanese and western organisations and argue that tacit transfer of knowledge seems to be more important in large Japanese corporations. Hedlund combines this information with the fact that the innovative process in Japan is more incremental as western counterparts rely on 'large step' innovation process. In practice this is seen in the way product development is achieved in large corporations. In the western economies large companies mainly acquire and exploit innovations while their Japanese counterparts contribute crucially to innovation process. Therefore, as a western company offers a totally new product to the markets its Japanese competitor has already launched numerous flexible modifications from the old product creating a family of improved options for the buyer. Hedlund suggests that the explanation for this might lie in the large amount of specified and articulated knowledge in western companies compared with Japanese. In highly structured environment it is hard to engage in a project which does not exactly fit into the classifications of certain department or function. This creates an inflexible environment for the further development and modification of the product. Japanese environment does not inhibit intensive dialogue and reflection by segmenting knowledge into functions, professional specialisation or hardware categories. This kind of organisation reminds quite a lot the model of process-based organisation that was discussed earlier.

2.3.3. N-Form Organisation

In the light of the analysis on the differences between western and Japanese model Hedlund presents a theory of knowledge management organisation. The purpose has not been to raise one above the other but to analyse and generalise the differences between these two systems. He describes the N-form model as the follower of the multidivisional M-form organisation[2]. The differences between these models are presented in table 2.1.

[2] It should be noticed that N/M distinction is not the same as Japan/West on, although many of the attributes of N-form are found in the R&D departments of large Japanese corporations, but not only there.

Table 2.1. Differences between N-form and M-form organisations. (Hedlund 1994).

	N-form	M-form
Technological interdependence	Combination	Division
People interdependence	Temporary constellations, given pool of people	Permanent structures, changing pool of people
Critical organisation level	Middle	Top
Communication network	Lateral	Vertical
Top management role	Catalyst, Architect, Protector	Monitor, Allocator
Competitive scope	Focus, economies of depth, combine parts	Diversification, economies of scale and scope, semi-independent parts
Basic organisation form	Heterarchy	Hierarchy

The strength of N-form organisation is in combining pieces of information and skills from various sources and different parts of organisation. This, of course, requires involvement of many people on different levels and, therefore, effective communication network which, on its half, stresses on the role of middle management as an integrator. The key word is not top-down or bottom-up but rather horizontal communication. Top management acts more like a coach or a catalyst, which creates facilities for the activities. (Hedlund 1994) Hope and Fraser (1997) describe N-form as a network where the front-line managers are the entrepreneurs, strategists and decision-makers, constantly creating and responding to new opportunities. The middle managers are the horizontal integrators building competencies across and outside the organisation as top management provides inspiration and a sense of purpose. (See figure 2.6.)

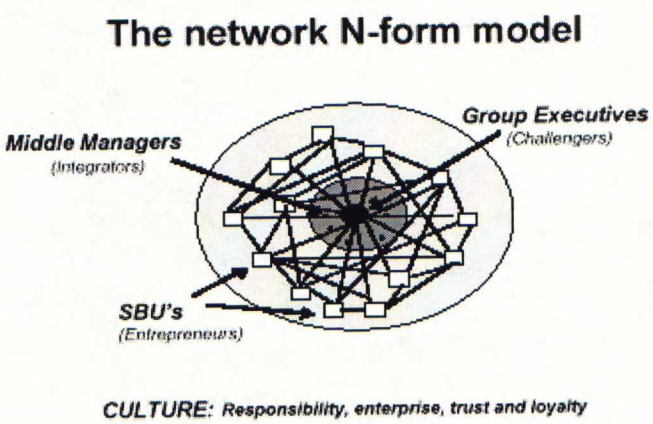


Figure 2.6. Network of N-form organisation. (Hope & Fraser, 1997)

One of the key elements of N-form is focus on critical areas of knowledge. *Economies of depth* refer to experience and involvement in area necessary to be able to generate new knowledge and to benefit from knowledge on related fields. The organisation structure is based on flexible, temporary constellations that are formed from 'expert pools'. Long term employment and relations are preferred in N-form organisation as trust and tacit knowledge have an important part in interaction process. Recruiting is performed mainly 'in house' allowing rotation in various fields of expertise and accumulation of tacit knowledge. (Hedlund 1994)

2.3.4. Weaknesses of N-Form Organisation

As mentioned above the virtue of N-form organisation is in the effective management of knowledge by combining it from various parts of the organisation. It is not, however, the ultimate model of organisation without any weaknesses. The weaknesses of N-form in relation to M-form are presented in table 2.2. It is a paradox that its greatest weaknesses result directly from its strengths. While focusing on continuous gradual improvement N-form organisation fails to achieve break through innovations. Necessary patents and licences have to be acquired, which can be rather time consuming method.

Table 2.2. Areas of M-form superiority. (Hedlund, 1994).

N-form weaknesses	M-form strengths
Fundamental, radical innovation not achieved by (re)combination and experimentation only.	Radical innovation through specialisation, abstract articulation, and investment outside present competence.
Long time to acquire fundamental new knowledge because of restrictions on senior recruitment and acquisitions.	Rapid infusion and diffusion of drastically new perspectives through people, acquisitions and spin-offs.
Difficulty in co-ordinating large projects because of reliance on small groups.	Large systems design capability through complex articulation and tightly controlled complexity.
'Competence traps' through too constrained development path.	Risk management through 'competence portfolio'
Bias for internal exploitation of ideas.	Freedom to use most effective mode, internal or external.
Difficult to change overall vision because of internal management promotion	Change of basic direction and culture through external recruitment of top management.
Strategic vulnerability trough strong focus and inter-relationships.	Strategic robustness through quasi-independent parts.

Furthermore, the recruiting policy that relies largely on rotation within the firm is an obstacle in the way of new ideas and knowledge entering the system. There is a danger of locking the process to the circle of recycling obsolete ideas. There is also evidence that N-form organisations have difficulties in co-ordinating large and complex projects, e.g. telecommunication systems. Hedlund offers the reliance on the dialogue on tacit level as an explanation to this. Co-ordination of large projects requires a significant amount of articulated knowledge, systematisation, written information and impersonal control. M-form is probably also better choice for companies operating in highly static environment.

The various trade-offs between M- and N-form show that the choice between them is largely dependent on the nature of the environment and market the company operates in. Some sort of mixture of the two is probably in many cases the optimum one. Hedlund argues, however, that N-form seems to have a lot to offer for the most fields of international competition.

2.4. Summary on the New Winds on the Organisational Development

In 1994 a Scenario Analysis Group was formed at MIT to develop possible future scenarios on structure organisations of 21st century. In their article Laubacher and Malone (1998) present two views on how corporate world might develop within a few following decades. The first scenario, called *'Small Companies, Large Networks'*, illustrates a world where huge corporate giants like GM, Microsoft and Sony have been forced to make way for autonomous, self organising and small firms. When a project, e.g. design of a new automobile, has to be undertaken a temporary organisation is formed from a network of specialised teams on an ad-hoc basis. The role of corporate management is to be the binding and co-ordinating force of the project organisation. This kind of structure allows rapid innovation on dynamically changing markets.

A few huge, global, *keiretsu*-styled[3] conglomerates dominate the world of the second scenario, *'Virtual Countries'*. In this world people's identity is not defined by their

[3] Word keiretsu originates from Asia and means an alliance where a core firm is surrounded by a network of numerous satellites.

nationality but by the company they work for. Changing companies is rare and people usually are employed by the same alliance for all their life. The large vertically and horizontally integrated multinationals have even taken part of the responsibilities of current countries, such as health care education and so on. Even though these scenarios can be seen extreme visions on future they illustrate a potential directions organisational development might take. It is interesting that also both of these scenarios contain many of the elements discussed earlier in this chapter.

If we want to develop a better budgeting system for the N-form organisation we have to first realise the factors that separate it from traditional M-form manufacturing environment. Most of the differences result from the role of information and its transfer within the organisation. The fundamental differences between M-form and N-form organisation are summarised below:

	N-Form		**M-Form**
Organisation based on	Processes	⇔	Functions
Management style	Knowledge management	⇔	'Assembly line' management
Organisation	Flexible Networks	⇔	Structured Hierarchy

2.5. The Role of Accounting in the New Organisation Environment

It is argued above that the key words of today's organisational environment are knowledge and information flow, flexibility as well as process-based thinking. In this light it can be argued further that the accounting processes controlling, guiding and supporting these activities of such organisations should also be formed along these guidelines. Many of today's accounting models are criticised because of their inability to adapt according requirements of the surrounding environment. Often these processes date back to the age of industrial revolution and M-form organisation. At that time the key resource was the financial capital whose effective use was the goal of the process. Budgeting system was developed according to the functional responsibility centre model, which often made it very rigid, bureaucratic, heavy and time consuming. As this kind of process requires a lot of resources it can be only performed once a year. As the time frame of operations is on many businesses much shorter it is possible that customers require products or services they are not budgeted

to want. Another aspect is the goal congruence between different levels of planning. If the strategic plan is to capture North European market the operational plan and budget have to support it.

The challenge set for management accounting systems in the N-form organisation is not trivial. The basic question is how to construct a *control system* that does not restrict the operational processes but still keeps strings in the hands of management. It has been suggested that control should be built in the operational processes. Another big issue is to define *appropriate metrics* for use of knowledge organisation. Sveiby (1987, 69) argues that information as output is hard to measure. It is possible to set up a time accounting system, but it measures more input than output, the value-added, of process. Also Champy (1995) criticises 'tyranny of numerical accountancy'. He admits that everything, naturally, has to contribute to business performance but continues that it is difficult to give monetary value to outputs of company.

Creating flexible budgeting system does not, however, concern only the process and tools only. A big part of the change is also concerned with the culture and the way accountants think and see their role within the company. The objective of following chapters is to form a model according to which management accounting system, and budgeting process in particular, of a knowledge based process organisation could be built up.

3. Business and Financial Planning in an Organisation

Planning process of a company is often divided to different processes depending on the time frame involved. Generally it can be discussed about the long-term strategic and short term operational planning. This division is rather rough as companies often implement more than two types of planning cycles measured in time frame and level of detail. It is, however, sufficient for the purposes of this paper, as the goal is to study the link between these two far ends of planning process.

Anthony and Govindarajan (1995) define strategic planning as *'the process of deciding on the programs that organisation will undertake and the appropriate amount of resources that will be allocated to each program over the next several years.'* According to Johnson and Scholes (1993) *'strategy is the direction and scope on an organisation over the long term: ideally, which matches its resources to its changing environment and its market, customers and stakeholder expectations'.* In accordance with these definitions strategic planning deals with organisation's objectives in a time frame of several years. Because of the long time frame the plan can not be very detailed. The goal of budget as a part of planning process is to generate a more focused and detailed view to a shorter period within the strategic plan. In many cases, however, the link between, usually annual, budgeting and the existing strategy is not as solid as it might be. This chapter discusses how the budgeting process could be developed to better align with the requirements of N-form organisation and support its long-term objectives.

3.1. The Strategic and Operational Planning Processes

According to Johnson and Scholes (1993, 14-23) strategic planning process consists of three interlinked elements: strategic analysis, strategic choice and strategy implementation. *Strategic analysis* is concerned with understanding the strategic position of the organisation. The whole planning process is based on profound understanding of what environment's opportunities and threats are and how they are related with company's strengths and weaknesses. It is also important for the managers to analyse and realise the expectations of different stakeholder groups and the impact of organisation's culture to possible strategic choices. They have to

recognise the complex role people and different groups have in the strategy implementation process. Together, a consideration of the environment, the resources, the expectations and the objectives within the organisation's cultural and political framework provides basis of the strategic analysis. The *strategic choice* element includes generation of strategic alternatives that are evaluated in the light of strategic analysis results after which the most suitable is selected. In selection of its fundamental or generic strategy company very largely sets frames for many operational decisions, such as organisation structure, control systems, production methods etc. *Strategy implementation* is concerned with the translation of strategy into action. Management has to deal with questions concerning an effective allocation of resources, organisation structure and design as well as managing the strategic change process. The implementation part of the strategic planning process is probably the most obvious and closest link to more detailed operational planning that is further discussed in the following chapter.

It is important to notice that strategic management is not a linear process of orderly sequenced steps. All three parts are overlapping and connected to each other. Often strategic analysis is a continuous process evaluating the state of environment and organisation's capabilities. The knowledge learned during the strategy implementation is fed back and used in further development of strategy. However, as strategy deals with company's objectives within several years the process should be consistent and avoid sharp turns in the short run. Of course, rapid changes of direction might sometimes be necessary because of rapidly developing internal or external factors. However, a company changing its competitive strategy every second year cannot claim that it has a structured strategic view.

The operational planning translates the long-range plans and capital investment decisions into a short-term action plan and defines in more concrete form the objectives organisation has to achieve, normally, within following year. Usually, when operational plan is prepared, most of the decisions affecting planning period have already been made (Drury 1992, 440). For example, production capacity cannot be increased significantly by decisions made for current operational planning period. Operational plan is developed within the context of ongoing business and is ruled by many previous decisions. However, short-term planning should not be seen as process

where elements of long-term plan are merely added together. As plans are initially approved in the strategic plan they are based on uncertain estimates that are projected for several years. The plans have to be reviewed and revised in the light of more recent information, which may cause important adjustments within current period and to long-range plans. On other words, the whole planning framework has to be seen as an integrated process where strategic decisions form the frames for operational plan, whose implications affect the future strategic decisions and direction.

3.2. The Objectives of Organisation's Financial Planning Process

Emmanuel, Otley and Merchant (1990, 160) describe the role of budgeting process: *"Budgetary planning and control is the most visible use of accounting information in management control process. By setting standards of performance, and providing feedback by means of variance reports, the accountant supplies much of the information required for overall planning and control"*

From a historical point of view the budget is simply an estimate of costs and revenues for a specific period of time. However, as the business environment has become more complex the process has grown up to be much more than just a financial document. Before it is possible to analyse the current state of budgeting and suggest potential improvements it is necessary to define what objectives process has in a modern enterprise.

According to Drury (1992, 441) the goals of producing budgets are:

1. To aid the **planning** of annual operations
2. To **co-ordinate** the activities of the various parts of the organisation and to ensure that the parts are in harmony with each other
3. To **communicate** plans to the various responsibility centre managers
4. To **motivate** managers to strive to achieve the organisational goals
5. To **control** activities
6. To **evaluate** the performance of managers

The first two objectives deal with *managing organisation's operations* and directing them so that the long-term goals will be achieved. Budget can be seen as strategic

plan's refinement to detailed action plan along which day-to-day operations are managed. During the process managers have to evaluate the current state of the operations, consider the desired conditions after following budget period and plan how they can be achieved. Different parts of the organisation have to also be reconciled under a common plan so that goal congruence would be achieved among managers of different functions. Without common guidance individual managers may each make their own decisions that are conflicting with each other. An example could be sales campaign introduced by marketing requiring production levels beyond production department's capabilities.

The second two objectives emphasise the importance of budgeting in *intra-organisational communication* and information sharing. The annual process enables top management to communicate its vision and expectations to lower levels so that everybody is aware of the plans, policies and constraints, to which the organisation is expected to conform. A budget can also work as an effective source of motivation providing challenge. In accordance with showing management's expectations a good budget gives the manager responsible for achieving it a standard to which he may compare the results of his actions.

The last two items on the list stress budget as a powerful tool for *controlling* people. Regular budgeting process enables managers at least once a year to review their subordinates' actions and performance. The basic ideology behind budgetary control is *management by exception*, which means that attention is concentrated on significant deviations from expected result. By analysing the reasons for these deviations organisation can learn valuable information about inefficiencies of the process, after which corrective actions can be realised. (Drury 1992, 442)

Many of the profound problems of budgeting result from the conflicts between the objectives of the model. This is admitted by many management accounting texts. For example, Emmanuel, Otley and Merchant (1990, 163) state: "*Motivational role of budgets is thus likely to conflict with other roles, particularly forecasting and planning.*" Therefore, it has been seen appropriate to construct a set of goals better aligning with each other.

Bunce, Fraser and Woodcock (1995) describe a research conducted by Advanced Budgeting Study Group of CAM-I. The study is part of a larger program whose goal is to develop management systems for modern enterprises. The initial work of the group was to conduct survey among member organisations to clarify for which purposes budgets are being used. Based on the survey the group derived their view on five fundamental objectives required from budgeting. According to Study Group budgeting should:

1. *drive activity plans coherently from existing strategies.* Budgeting should not focus too much on past financial data, variances and extrapolation current cost structure. Choices between competing budget demands and strategy options should be based on their fit in overall strategy and not be influenced by political skills. Although, this goal might first seem rather trivial it is one of the principal questions to be solved in process formulation.

2. *link resource consumption to process outputs*. This goal is about overcoming the 'last year plus' approach in setting resource levels. Most companies understand changes in costs but not in the cost structure itself. Managers have to realise that costs do not just appear on income statement but result from certain operations, processes or activities in the organisation.

3. *support continuous improvement, both incremental and breakthrough.* Companies should break away from internal focus on cost reduction and seek external performance benchmarks. However, the budget reports often concentrate management's focus on actual cost instead of opportunities for improvement.

4. *build and maintaining congruent behaviour*. Managers making budgetary decisions should realise that they are not acting in a vacuum but their actions have influence over departmental boundaries. Budgeting process should be a catalyst for communication, commitment, and change as well as overcome functional barriers and focus managers onto decisions needed to achieve market-based strategies.

5. *add real value trough planning and budgeting.* The outcome of the process has to be worth time and effort invested in it. Too much time is spent fruitlessly in budget iterations and discussing current year variances, and not enough on finding ways to meet next year's targets. The question does not, however, concern only time invested in process but using the time effectively.
   (Bunce et al. 1995, Newing 1994a, 1994b & 1995)

These objectives used by CAM-I's Study Group are also selected for the basis of analysis in this study. The fact that these goals are selected instead of some other set of objectives does not imply that one them is better or worse than the others. In many ways they just reflect same idea from different points of view. However, it is felt that selected set of objectives reflects well the issues important especially for guidance of N-form organisation.

3.3. Shortcomings of the Traditional Budgeting Model

3.3.1. The Structure of Traditional Budgeting Process

As stated earlier the objective of this study is to find ways to develop so called traditional budgeting model to better align with the needs of modern enterprises. However, before it is possible to criticise the model it is probably necessary to define what is understood by traditional budgeting in this paper. The technical preparation of budget is well covered in many management accounting texts. (E.g. Drury 1992, 444) Rather than presenting checklists for the preparation of budget the goal of this chapter is to clarify the thought model behind the process. Emmanuel, Otley and Merchant (1990, 165) state that, although, budgeting process in practise is complex the structure itself is rather straightforward. According to them the four underlying assumptions of the budgeting process are:

1. *Preparation of cost location budgets according to organisational pattern of authority and responsibility.*
   The budgeting process follows closely the authority structure of the organisation. It originates from the smallest operational units of organisation that prepare their own estimates for next year's budget. These budgets are then combined on the next level to get the estimates for individual business units, divisions, groups and,

finally, for the whole corporation. Although, this exercise might sound like relatively straightforward and trivial it often becomes very demanding and time consuming as the number of organisation levels increases.

The managers of individual responsibility centres typically have some influence over the budgets. However, the degree of influence varies from company to company and even within the same organisation. Usually the figures in the budget are a result of negotiation process between the manager and his immediate superior. The goal of the negotiation process is to create budget commitment so that lower level management sees budget as a motivating goal to pursue. However, as both parties know that that their future evaluation is based on the outcome of negotiation there is a risk the process degenerates to bargaining where the use of authority and formal power is more important than realistic prediction of future results.

2. *Responsibility centres are classified as cost, profit or investment centres.*

   This classification determines the individual manager's degree of responsibility over the costs and revenues he can influence. The underlying assumption is that a manager is held accountable for those aspects he has control over. A manager in charge of a cost centre is responsible for performing defined activities within defined cost frames. The output of the cost centre is not defined in monetary terms, revenues, as in the case of profit centre. The evaluation of a profit centre is based on both costs and revenues or on other word profit incurred from the activities. An investment centre manager is additionally held responsible for the employed capital. The advantages of such model are evident. Both effectiveness and efficiency can be assessed by reference to accounting data, e.g. by ROI, EVA etc. Responsibility and freedom walk, however, hand in hand. The adaptation to profit or investment centre structure requires decentralising a significant amount of operational authority to subordinate managers.

3. *Budget preparation of production activities based on standard costing.*

   As stated earlier, controlling role of budgets is largely based on standards which are then compared with actuals. Variances from standards are reported and analysed on routine and regular basis. There are basically two methods of

determining standard cost. They can be based either on analysis of historical data adjusted for changes in efficiency and economic factors or a Taylorian study on labour and material consumption of the process. Although, the latter method seems to have significant advantages in theory it requires a lot of work and might still not posses expected accuracy. The study, namely, requires significant amount of timings to be made in co-operation with workers. As their wages and bonuses might be connected to improvements made from standards they have selfish motivations to exaggerate initial time required by operations. The work study officers are, of course, aware of such problems but process tends to lose its scientific exactness if line employees try to distort results and officers attempt to remove the distortion. The authors present setting of target cost influenced by market-based factors as third option. They, however, add that its feasibility should be assessed by some other metric.

4. *Estimating product prises and quantities to be sold.*

   For the basis of preparation the budgets for responsibility centres require estimates on economical factors influencing their operations. In practise this means at least predictions on expectations on demand on provided product or service. On corporate level the assessment of economic factors requires some sort of scenario analysis on possible future states of environment. It is necessary to identify organisation's strengths and weaknesses and relate them to opportunities and threats of market place.

According to Anthony and Govindarajan (1995, 381) one of the critical aspects of the process structure is whether the flow is designed bottom-up or top-down. Much of the management accounting literature (including Anthony & Govindarajan 1995, Emmanuel & Otley & Merchant 1990 and Drury 1992) agree that the primary structure of the process should be designed bottom-up to create budget commitment among lower level management. Anthony and Govindarajan, however, suggest that an effective budgeting process should blend these two approaches. Budgetees prepare the first draft of the budget within guidelines imposed by top management, after which one or more review and critique rounds are carried out. This structure should ensure that the final budget is realistic as well as in accordance with long-term objectives and all organisation levels are committed to it.

Emmanuel, Otley and Merchant admit that there is a danger of misuse of budget data. If we see creation of realistic financial frames for the budget period as the primary objective it is possible to identify three potential areas of conflict. The conflict can be related to conflicting objectives of process, organisation's power structure and/or human factors.

a. The influence of conflicting objectives

The fact that budget data is used in accordance with planning also for evaluation and motivation of managers is a potential source of bias. It is quite natural that managers responsible for achieving the budgets aim in the process to set rather easier than more difficult target. Similarly, the second level manager is creating bias by trying to achieve a motivating budget for his subordinate so that the actual result would as good as possible. According to psychological approach target has to be demanding but still within reach (Emmanuel et al. 1990, 173). As stated earlier, the outcome reflects more parties' negotiation skills than their view about future.

b. The influence of power structure and hierarchy

Budgeting becomes easily a political process where participants seek approval for their views and advocate their position in the hierarchy. Manager can touch up figures to make up current bad performance or to gain approval, even at the risk of future disappointments. Also the fact that knowledge is power in the organisation can affect the process. Managers can, intentionally or unintentionally, distort or sensor information they pass to their superiors to sustain information asymmetry.

c. Human factors

There is also evidence that individuals find it sometimes hard to estimate expected value of outcome even if it is in their own interests to do so. People tend to associate certain assumptions to the context of information. In a study (Cyert et al. 1961) two groups were given series of numbers and were asked to estimate the future outcomes. Subjects that were told that numbers reflect past sales tended to make lower estimates than subjects expecting numbers to represent past costs. On

other words, subjects seemed to associate some sort of principle of conservatism in their estimates.

Thus, it can be argued there are possible a build in biases in the process, which are able to affect unfavourably to reliable estimates about future performance. Furthermore, if budget estimates do not represent accurate forecasts, there is an evident danger in using them in other decision-making processes, such as pricing policy and the evaluation of capital investment proposals (Emmanuel et al. 1990).

3.3.2. Criticism Concerning the Traditional Model

Table 3.1 summarises the weaknesses of traditional budgeting model in the dimensions of objectives defined in chapter 3.2. One of the biggest concerns is budget's coherence with company's strategy. As it was stated in the second chapter the core of the organisation are nowadays its processes rather than different functional departments. However, the view of traditional budgeting systems is often conflicting with this, as stated by Anthony and Govindarajan (1995): *"Another difference between strategic plan and a budget is that the former is essentially structured by product lines or other programs, while the latter is structured by responsibility centres."*

Table 3.1. The weaknesses of traditional budgeting approach (Newing, 1994b).

Objective	Traditional Budgeting	Problem
Strategic direction	Historical extrapolation	Not linked to strategy
	Arbitrary cuts	Wrong services cut
Resource allocation	Functional organisation	Depends on negotiation skills
	Annual process	Inappropriate cycle times
	Cost element focus	Outputs of indirects not visible
	Investment benefits understated	Surplus resources hidden
Continuous Improvement	Incremental improvement	Internally driven
	Fixed and variable costs	Fixed costs not reduced
Congruent behaviour	Predominantly Top-Down	Lack of commitment
	Financial measures	Distorts operational decisions
Add value	After event reporting of actuals	Variances not prevented
	Bureaucratic, time consuming	Wasted opportunity

Another strategies issue concerns forecasting that is in budgeting is traditionally largely based on extrapolation of historical cost data. Although, the company might carry out a market analysis the results very seldom reach the front line managers responsible for cost location budgeting. A pre-requisite for successful deployment of strategy is that top management powerfully communicates reasons behind changes in business and new performance targets. Communication is not, however, sufficient if it is not combined with use of structured process deploying strategy and translating goals on operational level (Bunce et al. 1995). Too often, the only forecasting tools available for cost location managers are actuals of past years and their own goals and view on future development. There is always a possibility that their view is not identical to corporate view. Furthermore, the uneven, political negotiation process can further blur the link to corporate strategies as costs are cut on more or less arbitrary basis. Based on their study Bunce et al. state that goal of *strategic coherence* seems to require a substantial focus on activities and business processes. Activity based techniques were seen as important from the *resource allocation* point of view. Although, the management function on deciding between competing demands was generally recognised as important it was found out to be not very sophisticated in many companies.

The focus on past performance also limits the possibilities of budgeting as a *learning experience*. Process does not encourage managers to question current structures and to seek benchmarks against which to compare efficiency. Cost reductions initiatives originate more often from a need to reduce costs by X % than from a possibility to renew the process. On other words, there is a consensus of '*If it isn't broken, Don't fix it*' in companies.

The budgeting model presented in chapter 3.3.1 grows rather complex and time consuming as the size of the company increases. In a large organisation even the first round of collecting budget suggestions might last several months. So that the element of negotiation creating budget commitment would not be lost management should come back to cost location level management with its suggestions to create the commitment. However, in practice it is often impossible to carry out even one feedback cycle and, in the end, lower level management receives a document that is from their point of view imposed by their superiors.

In a way it is ironic that although control and commitment are among the key objectives of traditional budgeting they are often presented among the biggest problems of process. According to Henderson (1997) a front line manager had commented budgeting: *"All I know I've got to put numbers in this spreadsheet for Head Office. It doesn't reflect the way we do business in here..."* This kind of statement reflects many things but commitment and effective control are not among them. Maybe the key word in achieving *goal congruence* is not Top-Down or Bottom-Up but vertical communication network that allows a dialogue between the lower levels of organisation. Allen (1994) states that in many companies control can be described in terms of a static 'stick-and-carrot' approach. Current reward systems often increase the temptation of being short-termist. According to Allen the static control should be replaced with dynamic version that is based on a balanced set of performance measures.

In addition to affecting to strategic coherence and commitment bureaucratic process influences also the quality and reliability of budgets. As stated earlier, annual budgeting often begun six months before change of fiscal year. Therefore, data budgets are based on can be up to 18 months old as the actual costs incur. There are not many industries so stable that forecast and plans can be made for such long period with reasonable accuracy. Allen argues that time is wasted in numerous iterations and negotiation rounds as well as in analysis of variances. He states that the usual explanation for a variance (after weeks of analysis) is 'the budget was wrong'. Allen sees such analysis as waste of time and valuable talent as time could have been used in developing better solutions for the future.

3.4. Guidelines for a Flexible Budgeting System

Fraser and Hope (1997) present that very much of the change is dependent on the change in the philosophy of budgeting. They want to separate forecasting, managerial control and cost management from each other since they often are conflicting. In their model frontline managers prepare *rolling financial forecasts*, for example quarterly, and update them when significant change occurs. The role of this forecast is no more or less than best estimate on future available. The key element of this view is that

forecasts are as accurate and objective as possible. Therefore, the significant difference to current system is that these *forecasts are not used for cost control and evaluation*. Because of that long and tedious negotiation process between organisation levels is not needed anymore. Since frontline management's evaluation is not based on 'actual versus budget' they have no personal incentive to distort the data. Furthermore, if it is believed that operational management has the best view on the dynamism of the market their estimate has to be the best possible forecast. This approach, however, sets a number of requirements for the process. Operational management has to have a fast and reliable access to external data as well as an understanding of processes so that they can continuously relate consumption of resources and output. Furthermore, there has to be a fast and open information channel so that data and knowledge collected on individual level can be shared and combined on organisational level.

So, if budget forecasts cannot be used for control and performance measurement how is top management able to follow company's performance? Maybe it is useful to consider why static performance goals have been set in the first place. Situation could be illustrated by an example of person in the back seat of a taxi. A situation without any pre-defined goals is analogical to person giving the chauffeur an order to drive and then closing his eyes. After an hour he opens them and looks where the car is. A person defining a route to a place where he wants to go and asking the driver to wake him up after an hour can illustrate a situation with static budgetary goals. However, this person does not see any road signs that might take him to desired place faster or go around a dangerous area. A good advice for this person would be to open his eyes every now to analyse the situation and give driver new directions if needed. Similarly, Hope and Fraser stress the importance of process that allows senior management to follow cash flows and profit performance up to the minute. This kind of *dynamic*, on-line *control* structure has not been possible to implement until recently as it requires quite substantial information processing capabilities. The dynamic control allows the use of *strategic milestones* and *relative measures*, such as balanced scorecard. The definition of objectives in more concrete form make them more easily understandable for front line employees while top management is continuously aware of the financial situation.

The model of Hope and Fraser aims to achieve effective cost control by creating a culture of thrift and continuous improvement reinforced by a *long-term, company wide* reward system. Savings are not motivated by a need to cut costs but rather a possibility to develop processes. Even now many companies are educating their employees to understand, which work adds value and thus eliminate non-value-added processes. Emphasis is rather in managing value up than costs down. Activity based management and external benchmarking are therefore important tools of an effective manager. The key elements of this approach are summarised in table 3.2.

Table 3.2. Key elements of N-form organisation budgeting system (Hope & Fraser, 1997).

Objective	Implication	Requirements
Forecasting and Resource allocation	Rolling forecasts not used as basis of evaluation ⇒ time consuming budget negotiations not needed ⇒ forecasts accurate and objective ⇒ less time consumed	Good access to external data for operational mgmt Well defined process structure Fast and open information channels within company
Measurement and Control	Dynamic control structure ⇒ 'on line' reporting of profits for top management ⇒ strategic milestones & relative measures for operations	Effective information processing capabilities Carefully defined set of measures used in evaluation
Cost Management	Culture of thrift and continuous improvement ⇒ elimination of non-value-added activities ⇒ cost savings by possibilities to do things better	Education of employees to develop their processes Corporate culture has to promote benchmarking and improvement

3.5. Summary on the Role of Budgeting

Identification of problems in the traditional budgeting approach creates basis for the development of process. In his article Newing (1994a &1994b) presents guidelines that should ensure the realisation of the objectives. These guidelines are presented in table 3.3.

Table 3.3. The implications and benefits of flexible budgeting (Newing, 1994)

Objective	Advanced Budgeting
Strategic direction	Link budgets to mission, vision and strategy Decide explicitly between competing demands
Rational resource allocation	Manage process across departments Accommodate different cycle times Focus on task outputs and productivity Ensure benefits are realised
Continuous Improvement	Drive improvements towards externally-based targets Make waste visible and address it
Congruent behaviour	Improve consensus building and decision making Use a balanced set of performance measures
Add value	Emphasise planning, improvement and prevention Integrate budgeting with management process

Newing argues that budgeting should rather look forward than just analyse and extrapolate history. It has to be integrated with the company's strategic planning. Management has to recognise the realities of market place as well as its value adding processes and structure the planning framework so that the benefits will be optimised. Decisions and choices made during the process should support the achievement of long term objectives. Although negotiations and compromises are inseparable part of budgeting management has to clearly decide between choices leading to opposite direction from strategic point of view. It has to recognise organisation's core competencies and reflect them in financial planning and resource allocation. Otherwise there is a danger that organisation's resources are spread too widely. Furthermore, the focus of the resource allocation should be in the organisation's processes instead individual tasks. In order to be able to make effective allocation decisions management has to first understand dynamics of its cost structure. A key to this is to find and select appropriate benchmarks for the performance, not just within the company but also externally. Instead of just reporting cost management reporting should also help in pointing out opportunities for improvement.

One of the most important roles of budgeting is to guide individuals towards decisions that contribute the company as whole. Objectives set in budgeting have to be measured in way that makes sense from the strategic as well as individual's point of view. The building of budget commitment through a series of negotiation cycles is often seen as a major factor lengthening the budgeting process. However, budgeting

should not be seen as a separate process but as an integrated part of normal management process. Instead of implementing a heavy and resource consuming budgeting once a year the financial plan should be formed little by little during the year. The commitment both from management as well as operational side will be created simultaneously as the plans are refined and agreed. This of course set requirements for the financial planning infrastructure since it has to be able to collect and consolidate information continuously.

This chapter has discussed the role of budgeting within organisation's planning framework and presented guidelines for the budgeting process of N-form organisation. The goal of following chapter is to concentrate more closely on issues of creating such system.

4. Building and Implementing a Flexible Budgeting Process

Previous chapter discussed the limitations of traditional budgeting model and guidelines along which a more effective budgeting system could be developed. To be effective management accounting system cannot be implemented separate from the surrounding realities of organisation. Choices company makes for example in manufacturing systems have an effect on the requirements of accounting processes. This chapter concentrates more closely on some of the most important elements influencing budgeting. The objective is not to provide a profound analysis on them since most of the subjects, such as activity based costing, would require a separate research to be covered even satisfactory. Instead, the chapter aims to illustrate why these elements are important and how they relate to budgeting.

4.1. Linking Strategic Aspect to Budgeting

4.1.1. Strategic Management Accounting

The need for linking the strategic aspect more firmly to the processes of management accounting was already identified early 1980's. In his articles Kenneth Simmonds (1981, 1982 & 1986) calls for the strategic assessment of company's position in relation to markets and competitors to be added to the processes of management accounting. He argues that internal cost monitoring and analysis, however effective and detailed, is not adequate for the basis of decision making. Instead of viewing profit as determined by a firm's internal efficiency it should be seen as stemming from the pattern of competition over the time as well as company's position in the competitive configuration. The external accounting analysis of competitors does not mean comparing different ratios based on the financial reports but more profound view to the background of the figures and the changes in the power structure of markets.

Data received from the financial reporting system depicts profits arising on a period basis without acknowledgement of changes in competitive position. A business that realised profit by running down competitive position would in its one year's accounts appear no different from a firm that realised same profit while building up its position. Yet, their future profit expectations are probably completely opposite. The objective

of *strategic management accounting* is to provide and analyse information about the business and its competitive environment for the use of developing and monitoring business strategy. The goal is not to redefine planning or marketing functions but to support them.

Often firm's competitive position is measured using indicators such as market share. Although, market share is one of the most important dimensions as competitive position is defined, measurement on one scale is not enough to reveal true picture. Effective analysis requires combination of several dimensions. Growth in market share can be, for example, achieved by cutting the price, which can, on its half, result in deteriorated profits and financial position. The measures presented by Simmonds can be divided into ones depended on companies' *internal efficiencies* and ones indicating the *state of the environment*.

Although, almost two decades later the ideas of Simmonds are already an essential part of strategic analysis performed constantly in many companies they provide a good view to the development of management accounting processes to better support the company's long-term objectives.

4.1.2. Strategic Cost Management (SCM)

Shank and Govindarajan (1993) develop the integration of strategic management and management accounting further in their book presenting the concept of strategic cost management (SCM). According to them management accounting, which at the moment mainly produces material for operational decision making, should consider more strategic issues and concerns. Their framework is based on three main themes: Value chain analysis, Strategic positioning and Cost driver analysis. The first theme, *Value chain analysis*, questions the value-added approach concentrating on company's internal efficiency. Authors argue that this perspective begins too late and ends too soon and thus concentrating only on a small part of the actual value chain. Accounting has already long discussed the problems of optimising the total cost of production within company trough transfer pricing. The view should be broadened to include both suppliers and customers so that the cost of whole value chain would be optimised instead of part of it. This argument is based on findings showing that for example cost savings in manufacturing process can result in an increase in the costs of

supplier and thus later in price of resources. In the worst case one dollar saved through implementation of JIT process causes a cost increase of more than a dollar in supplier's processes. This increase affects sooner or later the cost of purchasing. Similarly it can be argued that integration to customers' direction is as important.

The second theme, *Strategic positioning*, stresses the influence of strategic choices to accounting systems. The basic argument is that a universal accounting concept cannot be defined. For example the role of budgeting varies from company to company depending on the competitive strategy chosen and the competitive environment of market place. Meeting a tight cost budget is a much more important goal for a company trying to achieve cost leadership than for organisation competing with differentiation.

Cost driver analysis aims to move away from the view seeing the cost as a function of the output volume. Most of the accounting models consider the changes as dependent on the amount produced. The fixed versus variable cost, cost-volume-profit analysis, flexible budgets as well as learning curve all explain changes in cost as a result of physical output. The authors, however, argue that although the volume can explain short-term variations the cost development can be seen in a longer run as a function of, among other things, technological improvement, complexity of production and degree of integration.

Grundy (1995) states that the value of SCM is not in the illustration of long versus short-term debate, which is rather old, but in linking cost management to competitive context. It provides a disciplined and coherent framework to manage cost process in a strategic rather than in a purely tactical manner.

4.1.3.Strategic View to Budgeting

Key idea that link the ideas of Simmonds and strategic cost management are close relationship between accounting process and surrounding environment. If budgeting is considered from strategic point of view three key elements can be highlighted. First of all budgetees have to be aware of the *strategic objectives* to understand how their actions support the big picture. Nowadays many executives understand that strategy cannot be held as a privilege of a small core group and implemented trough

command-and-control style. The problem, however, is that strategy is often communicated to lower organisation levels in terms that are not concrete enough. Arwidi and Samuelson (1993) present that for people responsible for operations relational figures, like times and quality, will often mean more than pure financial figures. They can more easily relate them to actual processes and take corrective actions.[4] The second key element of strategic budgeting is that *information* concerning both internal and external environment has to easily available for people preparing budgets. This system should not just feed them data they expect to receive. According to Drucker (1995) an adequate information system has to include information that makes executives question their assumptions and ask the right questions. However, it is not sufficient that budgetees are aware of objectives and have access to data concerning state of environment. Budgeting process has to *focus* their *attention* to issues that are essential. Although, it is said that beauty lies in details they can, from budgeting point of view, also act distracting and blur the bigger picture. According to Kroll (1997) *'strategic planning and budgeting become unlinked when you start worrying about a hundred line items'.*

According to strategic view to budgeting many of issues are linked to the environment company is operating in. One of the most critical choices is the length of organisation's planning cycle. How often should company prepare budgets? Roger Mills (1995) states that the appropriate planning period can be explained using Porter's five forces model. According to model company's competitive advantage can be threatened by potential new entrants and substitute products. Furthermore, power of customers and suppliers as well as the degree of rivalry within the market affect competitive position. In assessing the length of planning cycle company should estimate the dynamism of these forces. The correct cycle time could be defined as *a period of time, for which company can anticipate the changes of business environment with reasonable accuracy.*

4.2. Resource Allocation

One of the key questions of resource allocation is to understand the dynamism and underlying realities of the cost structure. The understanding of linkages and

[4] The problem that of choosing right metrics is further discussed in chapter 4.4.

quantification of model variables incorporated with view on strategic direction allows management to concentrate resources in a way that serves the realisation of the objectives best. The goal of this chapter is to illustrate different methods for creating company's resource allocation model so that management does not have to rely an arbitrary percentage to be added above last year's figures.

4.2.1. Activity Based Budgeting Models

Conolly and Ashworth (1994) argue that budgeting takes place in near-isolation from the realities of the business and present activity-based methods as suitable tools for assessing the allocation of resources. Activity-based budgeting model works by understanding the linkages between and drivers behind the activities and thus helps to see cost impact of different activity levels. It also allows managers to see impacts of the decisions over the functional barriers and ensure optimum resource allocation over the business. Model incorporates two approaches: *priority-based budgeting* for areas not directly affected by changing volumes and *activity-based budgeting* for volume dependent primary activities.

The idea behind *priority-based budgeting* is to produce a competitively ranked listing of high to low priority discrete bids for resources. These 'decision packages' are constructed by asking managers to identify the activities in their cost centres. After the initial identification managers combine a package for each activity, in which they list its cost, both in manpower and money, benefits of activity and consequences of discontinuing activity. The decision packages of all functions are then studied together in the light of corporate objectives and their relative importance is assessed in a workshop after which activities are ranked from most to least important. After the assessment senior management has to relate the aggregate level of spending to ranked functions and give approval to funded packages while the others are discontinued and resources freed to other uses. It is important that the assessment group consists of both operational and senior management so that all interest groups can construct their opinion on resource allocation based on the same broad based view on operations. Some people might argue that it impossible to compare decision packages from different parts of the organisation. The reality of business is, however, that allocation decisions where one department wins and another loses have to be made all the time. Priority-based approach offers an opportunity to join the debate and lays issues and

choices in the open for assessment so that decisions are clear for everyone. It is, however, important that final ranking meeting is well prepared and conducted in an informed and businesslike way. The outcome has to be treated as two-way contract between senior and operative management. Senior managers can expect cost-centre managers to deliver what they promised in funded decision packages but, on the other hand, they should not expect outputs of unfunded activities. Contract has to be honoured both ways in order for the process to work second time round.

The goal of *activity-based budgeting* is to create a linked activity model that explains how different cost drivers are related to each other and fluctuations of volume. For example, to achieve budgeted sales the company has to process X orders that will result in Y invoices with Z complaints and queries. As these cost driver volumes are combined to unit cost model can be used to calculate the total value of required resources. The approach requires a quite profound understanding of organisations value-added activities and is therefore a natural extension of ABC. Conolly and Ashworth (1994) argue that knowledge about activities is not fully exploited if it is not incorporated into budgeting through cross-functional dialogue and performance review. This promotes also continuos process improvement across the organisation that is further discussed in chapter 4.3.

4.2.2. Change in Management

The biggest consequence of bringing activity-based view with budgeting is stepping away from 'last year plus'-method in resource allocation. If management does not understand how different parts and activities of organisation interact with each other they have very little hard evidence to base their decisions on. Furthermore, the negotiation process becomes more scientific and less politic as all parties are aware of and base their arguments on hard evidence showing required amount of input for desired output.

One of the biggest challenges is to change the attitudes of management as well as accountants. Kaplan and Cooper (1997, 112) present a comment of one manager to an ABC cost analyst: *"You're still acting as accountants. You're standing in the back of the boat giving me an extremely accurate picture of the boat's wake. I need a system*

that helps me to navigate the future, to tell me what I should be doing, not just reporting more accurately about where I have been."

4.3. Continuous Improvement

It was argued earlier that cost management cannot solely be based on idea that costs have to be cut by certain percentage. The source of savings has to be derived from the improvements in operational processes. The underlying idea is that small contributions will, in the end, result as major improvements and cost savings.

4.3.1. Kaizen Budgeting

Term continuous improvement is often associated with Japanese word *kaizen*. Although, kaizen is often combined with development of manufacturing processes it is more profound process that concerns the whole company, including accounting. The ideology is to seek process superiority through numerous little improvements, whose combined effect allows considerable advances in quality, on-time delivery, cost efficiency and, finally, customer satisfaction. Researchers have tried to explain why Japanese manufacturers continuously outperform their western competitors with Total Quality Control (TQC), flexible manufacturing and JIT production. Hiromoto (1988) argues that management accounting systems in kaizen environment have received too little attention. He believes that their contribution to companies' performance is more than marginal. Management accounting in Japan differs from western view already in its objectives. It does not stress optimising within existing constraints but encourages employees to make continual improvements by tightening those constraints. Also, while American companies try to capture the reality of shop-floor costs as precisely as possible Japanese use accounting to motivate employees in accordance with company's long-term manufacturing strategies. The role is more influencing than informing. For example, Japanese high level managers are less concerned with overhead allocation system's ability to reflect precise demands each product makes on corporate resources than systems effect on middle management's and shop-floor workers' cost reduction priorities. As a result, they sometimes use allocation techniques that western executives might dismiss as simplistic and misguided. For example, a Hitachi factory that is trying to increase the level of automation allocates overhead costs according to direct labour hours. This encourages

production management to reduce manual labour. Although, Japanese management agrees that allocation method does not reflect reality and might distort the profitability of manufacturing they see motivation to work in harmony with corporate objective, automation, as more important goal. Another unit of Hitachi uses number of components, especially non-standard, as allocation key to influence the decisions of its engineers.

Decisions and assumptions behind management accounting process affect and limit of course the possible use of data. Accounting data that is not meant to reflect true costs of a product is not a very good base for pricing decisions. Therefore, Japanese companies often base their pricing and product development on market based factors. The development process of a new automobile used by Daihatsu is a good example of a market based accounting practices. The process begins when product manager responsible for development instructs departments to submit the features and performance specifications they believe the car should have. Rather than calculating what the production of such car would cost the company establishes a *target selling price* that the market would accept. Then it defines *target profit mar*gin that reflects strategic plans and financial position. The difference between these figures is the *'allowable cost'* per vehicle. In practice, this cost is far below realistically attainable level, which is calculated based on current technologies with no innovation. After the first round management and design engineers start a feedback loop, during which engineers working in different parts of the car interact frequently with various players implementing the final design and try to develop new solutions. Incrementally, they reduce the cost trough innovations in design and production technology. The dialogue between various parties continues until they are able to define a production cost between the first estimates that is both attainable and acceptable for management. The dynamic cost management does not, however, end here. The budgeted cost resulting from design stage is the first target of production stage but not a static, ultimate goal. Over the course of the year it is tightened monthly by a rate based on short-term profit objectives. The market-based philosophy has also lead to abandonment of standard costing in many Japanese companies. Standard costs reflect an engineering mind-set and technology driven management as the goal is to perform according to best *available* practice. The market-based management, on the other hand, emphasises

what takes to achieve desired level of performance under market conditions. (Hiromoto, 1988)

4.3.2. Business Process Reengineering

Another view to the process development is the concept of Business Process Reengineering (BPR). As kaizen philosophy stresses the importance of numerous small steps BPR calls for radical redesign of company's processes. Hammer (1990) argues that every business is replete with implicit rules left from the earlier decades. Although underlying logic of these rules might have become obsolete years ago they still guide day-to-day operations. For the most part, the work has been organised as a sequence of separate tasks and employed complex mechanisms to track its progress. This arrangement can be traced back to the industrial revolution when majority of the work force poorly educated. Today a large portion of the population is educated and capable of assuming responsibility. Workers cherish autonomy and expect to have a say in how the business is run.

In a way the division of labour has turned against itself during the decades. The highly sequential tasks were created to simplify the processes. However, during the years the evolution has started to affect and different parts of the process have developed to different directions. Little by little the focus has drifted from the core process to the management of the process. The objective of BPR is to bring the focus back to the outcome instead of individual tasks. It emphasises the importance of holistic view to the process. Instead creating of highly sequential processes companies should train process specialists taking care of the whole value chain. Information should be captured and processed as close to its source as possible if the further communication does not add significant value to it.

Although Kaizen philosophy and BPR are each other's contrasts they are two different approaches to same problem, achieving process development that results as saved time and resources. This same contrast was also discussed in chapter 2.3 as M and N –form organisations were compared. As said then it is not possible to point out a universally best solution for all circumstances.

4.4. Congruent Behaviour

One of the biggest challenges of management accounting is to overcome the functional barriers and dysfunctional behaviour. Although, choosing right metrics to evaluate performance and communicating objectives clearly have major role in this also the decision-making structure itself affects very much in the outcome. The starting point for traditional budgeting has been the information asymmetry between different organisation levels. Therefore, it has stressed the importance of vertical communication. In order to make good decisions management has to posses sufficiently, both in quantity and accuracy, information to base decisions on. However, often the top and middle management are simply not close enough to the action to be able to respond to the changing needs of the customer and dynamics of the marketplace (Allen, 1994).

4.4.1. Dynamic Control Structure

The idea decentralising the decision-making authority has spread widely and many companies stress the importance of the team building in an organisation. However, creating a team does not mean selecting a group of people and calling them a team instead of a department. If teamwork is defined, for example, as a process of people working in co-ordinated and collective fashion to solve a problem it means that team must have tools and authority to work independently. This does not mean team should not have a designated leader but rather that the leader should see himself more as a couch guiding the process instead of an decision making authority.

According to Champy (1995) the idea to give authority and ownership of decisions to lower levels of organisation is frightening for many managers. The old command-and-control management structure builds on an idea that manager always makes the best decisions. This is, in fact, true as long as the manager has most information on the environment and background of the decision to be made. In order to create real commitment and participation in decision process manager has to first step down from the podium and share the information with the team. Another step is to realise that there seldom is an eternal, universally right way of doing things. One of the strengths of working as a team is diverse views and solutions to the problem. The leader and team just have to keep in mind not to abandon any ideas just because 'nobody has

done it like this before'. Achievements in business require certain amount of risk-taking and risk is always associated with possibility of failure. In a team organisation the company culture must allow and accept the possibility of mistakes in the decision-making process.

One of the basic assumptions of the shared decision-making model described above is that individuals are high spirited, eager to learn and willing to do their work as good as possible if they are given adequate amount of freedom in their field of responsibility. In a dynamic control structure individuals and teams control themselves. They just have to be provided with objectives and right kind tools and metrics to measure their progress.

4.4.2. Selecting Right Metrics

Many writers argue that attempt to describe the operations and efficiency of a company by using one universal measure is doomed to fail. A classic example of using only one metric in guidance of process is the cockpit of an aeroplane. Passengers would probably not feel very comfortable travelling in a jet whose pilot is using airspeed as the only indicator helping the navigation. Most people, and every pilot, probably agree that variables such as altitude, fuel consumption etc. are vital for steering a plane. Similarly as pilots require more than one instrument it can be argued that executives cannot rely on one metric in guidance of a company. During recent years several presented frameworks, such as Balanced Scorecard, have combined financial and non-financial measures as a balanced set of performance measures.

According to findings of Arwidi and Samuelson (1993) in Swedish companies financially oriented budgetary control process is gradually replaced with non-financial goal oriented processes. Financial figures are often too abstract and difficult to relate to operating activities. A set of operational measures, for example relating to quality and cycle times make more sense in operational environment. The financial measures are more important on higher hierarchical levels when comprehensive picture should be given of several related functional activities. Here it is more difficult to find other relevant quantitative measures.

Hiromoto (1988) presents similar findings in Japanese companies. He states that Japanese tend to use more non-financial measures in the guidance of the operational processes than western companies. The logic behind this is that if management accounting system measures only cost employees tend to focus on costs exclusively. The costs incurred because of a machine failure as lost production as well as salary and equipment cost are, of course, indisputable. However, in preventing machine failures figures such as rates of unexpected failures and ratio of preventive repair work to total maintenance tracked per machine are more useful.

4.4.3. Communication Network

The theory of N-form organisation stressed the importance of information's transfer and interaction between knowledge groups. From a budgeting point of view it is necessary to identify the roles of organisation levels in organisation's communication network and how they see budgeting process. In a transformation from M-form organisation to knowledge organisation the power structure is, in a way, turned upside down (see figure 2.6). Front-line managers whose role used to be implementers become organisation's *entrepreneurs and strategists*. For them budget has been a constraint and commitment that has largely define frames of their decisions. However, instead of blindly following an approved financial plan they need the freedom to operate within boundaries set by a clear corporate purpose and measurement framework including challenging strategic targets. The role of the middle management is to act as *horizontal integrators* building competencies and connections across the organisation and with external partners. Instead of being controllers they should act more like hands-on coaches and supporters of front-line management. From their point of view budgeting should offer a self-regulative tool for the operational management. Top managers become the *inspirers and creators* of corporate vision and values. Their job is to consistently challenge and question status quo and drive their subordinates renewal and improvement. The communication structure between these groups is not a tree-like hierarchy but rather a network.

However, as long as information is embedded in physical modes of delivery, its economics are governed by a basic law: the trade-off between richness and reach. On other words, as the number of people involved in the information exchange increases the amount of customisation and interaction in the communication decreases. Within a

corporation traditional concepts of span of control and hierarchical reporting are predicated on the belief that communication cannot be rich and broad simultaneously. Jobs are structured to handle rich communication among a few people standing in a hierarchical relationship to one another. The broader communication is handled through indirect routes, e.g. on bulletin boards, outside the official command line. (Ewans & Wurster, 1997)

However, the rapid emergence of universal technical standards for communication allowing everybody to communicate with everybody else at essentially zero cost has allowed this to change. The development in net technology as well as electronic messaging are freeing information from the physical channels that have been required to exchange it and have enabled more people and organisations to connect to each other. Inside large corporations the emergence of universal, open standards for exchanging information over *intranets* fosters cross-functional teams and accelerates the demise of hierarchical structures and their proprietary information systems. (Ewans & Wurster, 1997)

So, what are the implications of these new information exchange tools from budgeting point of view? Maybe it is necessary first to think what kind of information exchange relationships there are in budgeting process regarding the amount of people involved. In the early stages of budgeting often involve some kind of communication of the environmental factors affecting the period in question. Typically this information is gathered centrally and then transferred as one-to-many messaging. On the other hand, the bottom-up consolidation of budgets can be seen as opposite, many-to-one communication. The negotiation process is a typical example of one-to-one communication. The new technologies enable something that was impossible earlier: many-to-many communication. Considered in Hedlund's (1994) knowledge transfer framework (Figure 2.5) this kind of medium can further *extension* of individual level information to organisational learning.

One possible tool could be some kind of Planning Information Market Place for the information gathering and analysis process. On this platform all people involved in planning process could post and receive information affecting planning. The system could be more than just an electronic bulleting board since a database solution can

enable more effective combination and analysis of the information posted in the system. Further benefit of such tool would be that more people and, therefore, more different views on market would be involved in the process. However, to be effective the use of the tool should be continuous and integrated to day to day observations of the changes in market environment. The next step from the electronic bulletin board might be to make the budget iteration and negotiation process open and available for everybody's contribution. Such tools have already been implemented, at least on smaller scale.

Although, the new electronic means of communication provide an effective channel for the exchange of information they do not automatically solve organisation's communication problems. In fact, incorrectly used they can suffocate everybody under information overload. It is necessary to remember that in every communication there are two parties involved: the sender and the receiver of information. These new communication channels do not decrease their role in the process. The sender's responsibility is still to form the information as a tight package that is understandable for the receiver. In the web based solutions the receiver's responsibility even increases, as he has to actively go to fetch and distil the information necessary for his purposes.

4.5. Add Value to Time Invested in Budgeting

As stated earlier budget should be in accordance with long term objectives. However, if the preparation takes several months the link to strategy is very likely to get lost during the process. Many people involved in budgeting argue that the budget negotiation and selling process is one of the biggest factors consuming time. On other words, creation of commitment is traditionally very closely linked with time required for budget preparation. As previous chapter discussed methods of creating commitment this chapter continues with subject by discussing how the process structure it self could be made more efficient.

The difference between traditional bottom-up negotiation process and more straightforward top-down process can be illustrated by following example presented by a person responsible for budget process development.

In traditional budgeting process a cost location manager began his exercise by adding up all the salaries, travel expenses, investments etc. of the department and calculated total expenses, shall we say for example k$ 1,100. During the following, time consuming, negotiation process he had to justify the expenses to his superiors. In many cases the first proposal was cut down by some more or less arbitrary percentage since the total expenses of a group of locations could not exceed a certain amount. The manager of our example could have been ordered to cut the costs by k$100 which he could divide between different cost elements as he/she wished.

In a top-down system the same manager could be informed that he has k$ 1,000 to perform the required function. The result is same in both cases (k$ 1,000) although the later systems saves the manager a lot of time and effort. The psychological effect of the approaches is, however, completely different. As the manager feels that the former budget is more or less the result of his own hands he is committed to achieving it much more than the latter that is something imposed by the organisation levels above.

According to this example the front line management's realistic opportunities to affect the final outcome are sometimes rather limited. On other words, the goal of the negotiation process is not to achieve the most realistic budget but only to achieve commitment of lower organisation levels. Some people argue that even this objective is often achieved poorly. If this is the reality we should probably consider better and less time consuming methods to create budget commitment.

So how much time should be invested in budgeting process? An exact figure cannot, of course, be defined. The optimal length of the budgeting cycle depends very much on the realities of the environment as well as company's internal planning needs. However, independent on the chosen approach budgeting should not be seen as a separate process repeated between certain time period. All managers exercise planning as part of their day to day work. The strategy and operational plan for the following year are not formed during a two-week-planning-period but rather as a

result of ongoing effort. The financial part of the planning should be seen as an integrated part of the normal management process.

One of the factors preventing rework and lost time is effective co-ordination of the planning process. This does not mean that the managers would be monitored and controlled during the budgeting. The idea is that the rules and time line of the process are agreed and communicated in early stage. It is vital that all people involved in budgeting are aware of the planning schedule, required input as well as responsibilities and authority structure. Too often the rules of planning change in the middle of the process from the point of view of operational management. They might be asked to begin to make preliminary estimations and only after a few weeks' work they are told the guidelines for the final budget. In the worst case these new guidelines change the assumptions so that the work has to be started from a scratch.

5. Case Study - Hewlett Packard Corporation; SCALE Process

This chapter consists of a case study written in co-operation with Hewlett-Packard (HP) company. This chapter is mostly based on company's internal training material, both in hard copy and electronic format, discussions and interviews with people involved in planning process as well as authors own observations as employee of the company.

The goal of the case study is to analyse an existing financial planning process in the framework presented in the previous chapters. The budgeting model presented in previous chapters was formed along the needs of a knowledge organisation and it can be argued that Hewlett-Packard, one of the largest computer manufacturers in the world, is probably not a school book example of such company. However, as it was argued in chapter 2 effective knowledge management is not a monopoly of pure know-how companies. Effective management of intellectual assets is increasingly challenging financial capital as key competitive constraint. Instead of just products companies have to be able provide customers with tailor made solutions, which requires effective problem solving capacity and knowledge management.

Hewlett-Packard decided to reengineer its financial planning process mid 1990's since former process *'failed to deliver a reliable centre point estimate of performance with credible foundation for action as the year progresses, and consumed a significant resources on broad basis'*. Among other things objectives of process improvement were:

- Reduce the cycle time and complexity
- Create better alignment between corporate strategy and financial planning
- Increase the value of management reporting

As a product of this reengineering project the former budgeting model was replaced by SCALE process starting from fiscal year 1997. This case study is written approximately a year after the initial implementation. As the objectives are in many ways similar to framework presented in the previous chapters it is felt that it provides a good basis for analysing the process.

5.1. Hewlett- Packard (HP) Corporation

5.1.1 Company Background

HP was founded in 1939 by two electrical engineers Dave Packard and Bill Hewlett. The first product, an audio oscillator, was built in a back-yard-garage rented in Palo Alto, California. The product was used in testing audio equipment and among the first customers was Walt Disney Studios that bought eight oscillators to develop and test the innovative sound system for the movie "Fantasia". During the decades the company has invested in leading edge technology and nowadays Hewlett-Packard is one of the world's largest computer companies and the leading producer of test and measurement instruments. It operates world-wide and employs over 124,000 people. In fiscal year 1998 company made a net profit of $2.9 billion with sales of $47 billion. Its product mix of over 29.000 products is used by people for personal use and in industry, business, engineering, science, medicine and education.

The HP way

In addition to its employees and innovative products the success of the company relies largely on corporate objectives, values and culture – the HP Way of doing business. The foundation of the HP Way was laid as the first set of corporate objectives was formalised in 1957 by company's key management. The concept serves as unifying force that defines how the company is seen by both the internal and external interest groups. Figure 5.1 depicts the relationship among the three elements of the HP way.

At the core of the HP Way are the *organisational values* that endure through good and bad times. They define company's relationship to its environment, employees and other interest groups as well as guidelines of doing business. One of the cornerstones of values is trust and respect for the individual. Company wants to attract a diverse group of highly capable individuals and recognise their efforts and contribution for the company. The belief is that people want to do a good job and will do so, given proper tools and support. Trust and loyalty as well as highest standard of business ethics are part of ingrained tradition that is passed from one generation of employees to another. The same demand for high standard is also reflected to company's products and services. Permanent product quality and continuos process development are ensured by effective teamwork across borders in an environment supporting flexibility and innovation.

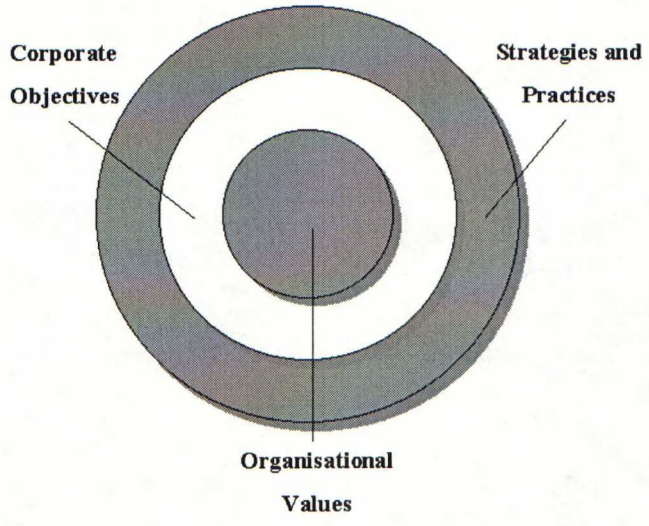


Figure 5.1. The three layers of the HP Way (The HP Way, 1997)

The next layer of the HP Way is the *corporate objectives* that are based on the deeper values. They are guiding principles for all decision-making by HP people and set goals towards which to aim. The objectives, first established in 1957, change infrequently and were most recently updated in 1997 as seven key objectives. According them sufficient profit and growth are necessary to finance and facilitate resources needed in achievement of other objectives. High in this list is the customer to who company aims to provide products and services of highest possible quality. For its employees HP tries to form an environment where individuality as well as satisfaction and development through work are supported. To foster initiative and creativity individuals have great freedom of action in attaining well-defined objectives.

The most flexible component of the HP Way is the outermost layer of the figure 5.1, *strategies and practices*. They consist of shared plans and actions for working, managing and leading. As said they are not set in stone and differences may occur across functional areas, product lines and cultures as well as over time. The combining factor is that strategies and practices are always consistent with objectives and values. Effective teamwork aiming to innovation and improvements in technology and processes requires constant dialogue between different teams and

organisation levels. At HP it is believed that open and informal communication is vital in achieving this. It is encouraged by practices such as Management by Wandering Around (MBWA) and open door policy. The former can be demonstrated by a manager reserving time to walk through the department and being available for informal chats. According to latter principal people are encouraged to share ideas and raise issues with management without fearing adverse consequences. Another world wide shared concept is Management by Objectives (MBO). Together with open communication it creates accepting environment where people are willing to take risks, share new ideas and develop strong commitment. Overall people are encouraged to take personal responsibility and initiative in issues regarding the development of the company as well as their own career.

Together the three elements of HP Way combine stability, consistency, flexibility and adaptation to challenges across time and cultures. The strategies and practices change in response to external and internal business conditions, but they always remain consistent with the values and corporate objectives. HP's value of making high level of contribution illustrates how practices change but remain consistent with underlying values. In 1960's HP produced everything in house – even the screws used to fasten together instrument casings. HP still values a high level of contribution, but now focuses on a few core competencies and buys the additional technology and services needed.

5.1.2 Business Environment

Hewlett-Packard operates on high technology markets that are characterised by global structure, short business cycles and aggressive competition. Its competitors are very diverse ranging from some of world's largest corporations to many relatively small and highly specialised firms. In addition to price the basis of competition are primarily technology, performance, quality, reliability as well as customer and service support.

Since the product life cycles are short companies are required to develop new products and continuously enhance their existing ones. They have to be able to develop, manufacture and market products and services that meet the increasing customer expectations for performance and reliability. The first mover gets advantage

in utilisation of the larger margins of the early stage of product life cycle as well as head start in further development of the technology. However, the first movers bear more risk in the complex and uncertain process of high-tech product development. It requires accurate anticipation of customers' changing needs and emerging technological trends. Companies have to make long-term investments and commit significant resources before knowing whether the future products will ever enter markets. As product life cycle approaches maturity more competitors enter the market reducing the gross margin. Simultaneously, the importance of product support and services as factors of competition increase. At some stage companies have to make decision whether to stay on market and compete with diminishing margins or to transit to new products and markets.

If HP is analysed from market-entry point of view it is clearly more in the first mover end of the scale. Its strategy is to stay at the leading edge of technological development and seek new solutions and markets. The trend of shortening product cycles, of course, creates challenges for research and development both in product and services businesses.

5.1.3 HP's Global Organisation Structure

So that it is possible to understand the requirements set for HP's planning framework it is necessary to study the company's organisation structure. As figure presented in Appendix A illustrates company consists of six structural elements:

1. office of CEO
2. major lines of business organisations
3. business groups
4. corporate infrastructure
5. geographic infrastructure
6. corporate research laboratory

Looking closer at hierarchy of its businesses HP is organised around three major and distinct global *business organisations* that are each focused on one or more industries or markets: Computers (CO), Test and Measurement (TMO) and Measurement Systems (MSO). First two consist of portfolio of *related business groups* as MSO represent a collection of four *independent business groups*. Groups are in turn

composed of a portfolio of related *product divisions*. Generally divisions are autonomous, fully functional global business units with their own R&D, marketing, manufacturing, admin, sales and support. They form the nucleus of HP and are the primary drivers of its growth and profitability.

On the other hand, geographic structure creates platform and infrastructure for the product based structure to operate on. Although, the divisions operate autonomously it is rational to integrate some of the activities for example on country or regional level. Furthermore, geographic infrastructure enables and facilitates co-operation across divisional boundaries. It is expected that in the future customers require increasingly broad-based solutions integrating products and knowledge of several product divisions. Although, it is not one of the main functions of the geographic organisations, especially in small countries, it can act as unifying factor between the businesses. However, the most important thing from the customer relationship perspective is not how co-operation is achieved but that customer knows whom to contact despite which HP products are required.

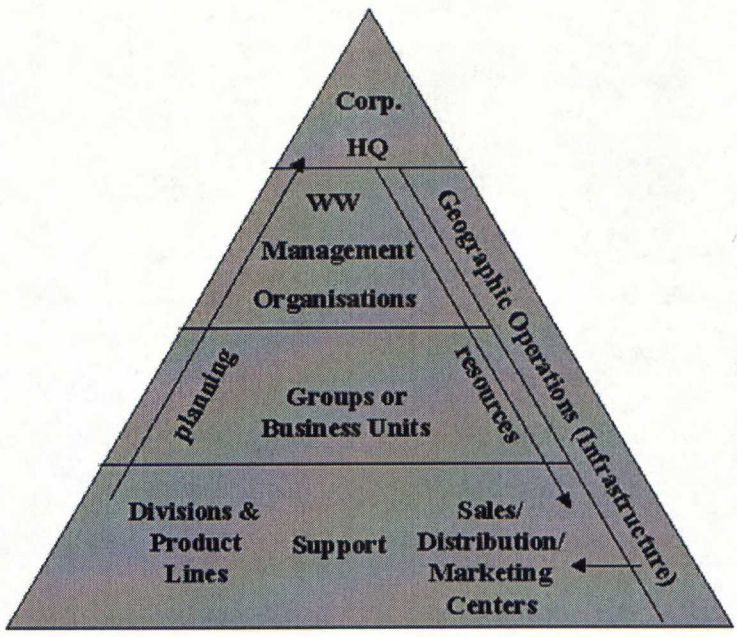


Figure 5.2: HP's Financial Planning Hierarchy

From a planning and reporting point of view it is important to notice distinction between business lines and geographic structure that form a sort of matrix

organisation. Activities and information flow are managed along both business and geographical hierarchy. Planning process has to facilitate planning and reporting on both dimensions. Figure 5.2 illustrates the basic communication/planning structure in HP. In the figure it can be seen how the geographical and business structure are linked with each other. Consistent with HP's de-centralised management model, the philosophy and methods used for business planning are left up to each organisation/group/division to define and choose. However, so that guidance and co-ordination of strategic and tactical planning would be possible on corporate level an integrated planning framework is used.

5.2. HP's Integrated Planning System

An illustration of HP's Global Integrated Planning System (GIPS) is presented in Appendix B. This framework defines the crucial business and financial planning and review processes that enable senior management to view, position and navigate HP in an environment of rapid change. The goal of the process is not to present a one-shoe-fits-all approach but to provide guidelines along which businesses can implement their own solutions. The elements of GIPS can be divided to *time driven* and *event driven* processes. Those elements that have to be co-ordinated across the company are treated as time driven and occur separate from event driven elements.

5.2.1. Event Driven Processes

The three event driven processes in the upper part of Appendix B represent the strategic planning. These processes are used to guide the corporation and its businesses for the following 3-5 years. As event driven processes, they are triggered when underlying assumptions regarding HP or its constituent businesses are questioned by internal or external forces.

The objective of *company positioning* is to create a sustaining vision in a form of a corporate strategic intent to guide HP for the following 5 to 10 years. It binds company's businesses around a common purpose, objectives, values and a vision of the future. It encompasses the scanning and analysis of global economic, industry and technology trends as well as employee, customer and shareholder expectations. *Multi-business portfolio planning* is used at the enterprise, organisation and group level for

evaluating the financial potential and managing the allocation of resources for mix of businesses. The goal of the process is to evaluate the risk/return profiles and to define optimum blending of businesses with different financial, industry and life-cycle profiles so that portfolio is focused on desired areas with appropriate level of risk. *Strategic business planning* evolves from understanding of current and possible future alternative scenarios of business environment. Its goal is to move business from present state to a new and improved state looking out over the following 3 years. It involves formulation and evaluation of potential strategies, selection of most viable and development of detailed plans to put strategy into operation. The main tool used for strategic business planning at HP is so called *Ten-Step process* that communicates and links entity level planning to group, organisation and corporation level objectives. It also works as a link between event and time driven elements of the planning process.

5.2.2. Time Driven Processes

The time driven elements that are synchronised across the organisation by corporate planning calendar form group of *inter-linked*, key annual planning and review processes. They are synchronised within company's fiscal year that changes in the end of October. The outcomes from the *Business Strategy Review* (BSR) process are used in formulation of annual financial plans and key company wide priorities. Annual BSR highlights key trends and forces shaping the business environment. The information flow is mainly bottom-up and consists of Business Strategy Summary (BSS) documents that collect significant issues affecting the operations. Information is analysed and distilled and only elements that are needed by the next level are communicated. Each organisation level consolidates its document from the data received from subordinate levels and adds its own views on direction of business so that the end result is corporate tactical plan. *Hoshin and Business Fundamental* (BF) planning are used in refining annual tactical plan by deriving detailed operational objectives from the conclusions of BSR process. The goal is to define and ensure the realisation of critical success factors from areas like financial performance, competitiveness, customer and employee satisfaction, technology and organisation effectiveness. Hoshins are prepared on all organisation levels and concentrate on significant factors effecting operations of organisation and business in question.

The *annual financial planning* and resource allocation are taken care by SCALE process. Guided by financial model develop from BSR it defines the financial performance objectives and resource requirements and incorporates different financial plans for different purposes. On the other hand it supports creation of shareholder value but simultaneously allows operational agility. The following chapter concentrates more closely on the structure of SCALE.

5.3. SCALE Process

5.3.1. SCALE Time Frame

SCALE (Short-term Contract And Long-term Estimate) is described as *highly accountable, medium term, rolling actionable plan of record that best represents a most likely centre point estimate of performance*. SCALE consists of a two-quarter plan of record, Short-term Contract (SC), and a four-quarter projection, Long-term Estimate (LE). Time line of SCALE process is presented in Figure 5.3. One of the starting points for the development of SCALE was that the annual targeting did not support the operational time frame. The former process has been found out to be rather rigid when it comes to communicating and implementing a change, since its cycle time of one year simply is too long compared to the business cycles. The length of SC, six months, was chosen as it represents better the window of operational visibility in most of HP's businesses. The product cycles on high tech markets that company operates on are often significantly shorter than one year and accuracy of detailed plans reaching further than half a year can be questioned. LE part of plan is constructed on much higher detail level than SC and aims to deliver a view to business direction beyond the scope of SC period. It is linked to most recent actual results and should be explained in the light of the most recent BSR results.

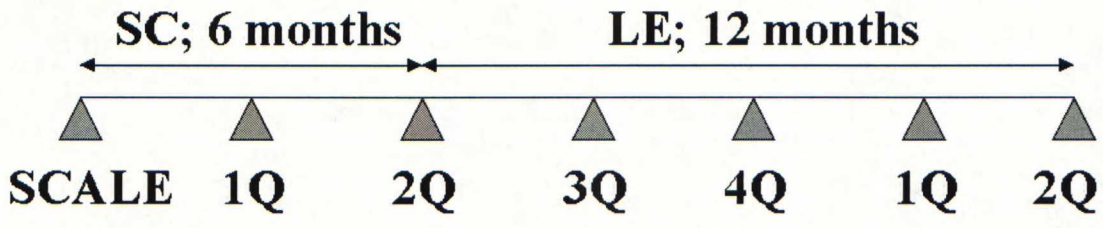


Figure 5.3. SCALE timeline presented in quarters of fiscal year. (1Q = end of 1st quarter, etc)

Another aspect that was highlighted in the SCALE development was the resource and time consumption of former planning process. The bottom-up consolidation from cost location budgets to division, group, organisation and corporate level was time consuming and still did not deliver accurate enough results. It was obvious that if the frequency of planning were increased the effort required for the creation of budgets would have to be decreased. However, in a large corporation, such as HP, budget planning requires a large amount of information being processed on many organisation levels. In order to avoid rework the process has to be well co-ordinated. Figure 5.4. presents the time line of fall SCALE. Although, the process in all takes several months it is necessary to notice that different organisation levels are not involved in all of these tasks. The planning process preparation is started in May as the corporate and regional headquarters agree on planning schedule and collect the *initial inputs* from the infrastructure organisations, such as IT. In this part the focus should not be in collecting detailed budget data but rather in finding out what are the relationships between various organisations. Based on this initial data gathering it is decided on which organisation level certain activities are planned and budgeted and what should be the cost drivers used. The *rules and methods* are collected in targeting manuals that define guide the actual planning processes in businesses.

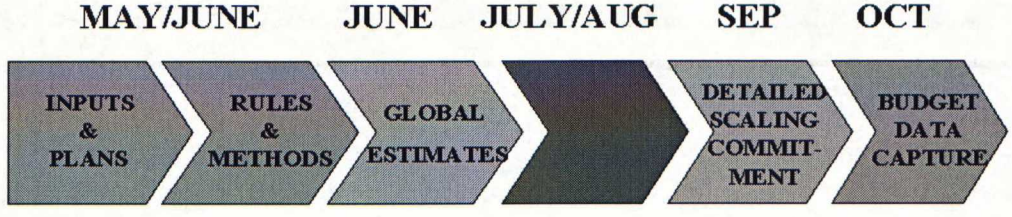


Figure 5.4. FY99 fall SCALE in Corporate Calendar

Around June the businesses start to refine their *global level estimates* and view on the changes and development on markets based on the BSR data collection. The goal is to create a common understanding on the strategic issues and the focus areas before the *financial plan is rolled down* during September and *finalised on local* level before the change of fiscal year. The quality of process preparation is essential when the final budget figures are agreed on. As the time frame is very tight it is important that the

level of decision ownership agreed earlier is kept in mind and resource allocation is only done on that level. On other words, it is waste of time to prepare detailed financial plans in countries if the decisions affecting the actuals are made on higher organisation level.

5.3.2. Information flow: Bottom-Up and Top-Down

However, even bigger difference than time frame between former targeting and SCALE is the focus between details and 'the bigger picture'. The starting point of former resource allocation process was the individual cost location budgets and, therefore, the focus was concentrated on resource needs of 'grass root level'. Although, the process provided cost location managers a good basis for the planning of their operations the general management of corporation felt that their possibilities to affect the outcome of the process were quite limited. Changing the financial frames of businesses was seen to be difficult, if not impossible, after the cost location budgets were once agreed upon.

The focus of HP's business is, however, more global than local and, therefore, the basic ideology of SCALE is that financial planning has to be based on a larger picture of trends of business environment. However, it can be argued that the knowledge about the fundamental realities of market place is located in the operational entities working with the customer. Therefore, the starting point of SCALE is in the strategic bottom-up consolidation process (BSR) that collects the views of different organisation levels to corporate tactical plan. As Figure 5.2 illustrates corporate management uses this information to form its view on desired direction of business and potential trends affecting competitive environment. Resources are allocated top-down using corporate-level objectives as starting point. The focus of the planning is on higher organisational level. For example the instead of combination numerous country focused budgets HP's European headquarter forms a financial plan that could be described as Pan-European budget.

If we consider HP's planning framework from geographical point of view there are two negotiation axles. On one hand there is a forum between corporate headquarter and regional management and on the other a forum between regional headquarters and local entities in countries. The structure of former process, bottom-up consolidation,

stressed the importance of negotiation on local – regional axis. As stated earlier, many of decisions and choices affecting company's strategic direction were made already on this level. SCALE focuses more to the regional – corporate HQ axis. Although this more effective from strategic point of view it also creates a challenge to create local involvement and commitment to planning. In the end the local sales organisations are company's link to the customers and their needs.

5.3.3. Change in Management

The changes in the structure and timing of the process form, however, only part of SCALE's new planning philosophy. The biggest challenge is to renew management's attitudes and assumptions towards budgeting. Achieving profound results in this sector requires a long-term commitment to management of change. As stated earlier the biggest structural changes of process are time frame and balance between details and broader view on business. This transformation requires a significant change in methods of preparing budgets. It has been noticed that the difference between old and new systems seems to increase further down one moves in the organisation.

The short-term operational budget has to be seen in the context of company's other planning mechanisms. The goal is to avoid a 'hockey-stick' forecast that goes straight for a long time and then shows an upswing in the end. If management is serious about the long-term objectives annual plan has to show progress toward them. SC has to be connected to LE, which is linked to Business strategy planning. Management has to issue clear guidelines and expectations for all time frames and work consistently towards them. Objectives have to be expressed in terms of key metrics that ensure the realisation of strategy, such as growth rate, EVA/ROA, market share and quality. Furthermore, financial planning has to be seen as continuous process of surveying environment and refining plans as knowledge increases.

More broad-based view to realities of business requires a shift away detailed line item planning. Detailed plans should be only constructed to level to understand and drive business. The number of cost locations and line items have to be reduced so that budgets and allocations are not made under the level decisions are owned. Managers should identify and focus on the key metrics that reflect the profitability of their business. Rather than just concentrating on cost they should also observe the growth

of business, net profit, contribution margin and return on investment. Furthermore, it is important to understand dynamism and realities of cost structure. In many cases a few lines or key activities cause over 80% of costs. In financial planning managers should concentrate in them and key *controllable cost drivers*, such as staff and programs. They should recognise elements that are either outside their control or have minor effect to the efficiency of responsibility centre. The controller of a business organisation states that managers should aim to see their Short-term Contracts in terms of a 'two-number-budget', in which key figures are the total costs for each quarter of plan.

However, change to thinking only in terms of total cost is a rather large leap to unknown for a person that is used to build up his budget from small items. 'How can I calculate the total cost if I am not supposed to do at least some kind of detailed plan of my expenses', is a question that many local, and also regional, managers present when they hear the planning guidelines. In a large company operating on many markets and businesses there is no uniform answer to this problem. The solution is depended on many factors and variables and, therefore, businesses and organisations have been given a rather large authority to decide on tools and methods used. Among these methods are using trend analysis in estimating effect of internal and external environment and creating cost modules for resources required in operations. For example in estimating the cost of information technology (IT) services it could be possible to establish standard user profiles whose cost can be estimated with reasonable accuracy. Furthermore, rather than trying to estimate the consumption of office supplies managers could concentrate on how developments in mobile voice and data communication as well as desk sharing influence both in cost and efficiency of their sales force.

The planning cycle should be kept as short as possible. The truth about budgeting is that *everything that can be changed will be changed, up until there is no time left to change anything*. However, the objective is not to go through in a few weeks the process that previously took several months. The change in management and people's attitudes towards budgeting as well as effective co-ordination of activities are essential so that the cycle time can be reduced without losing the quality. In fact, as

stated earlier, the goal of SCALE is to increase the quality of financial planning by using the resources in more effective way.

5.4. Conclusions of the Case Study

The goal of this chapter is to analyse SCALE in the framework presented in chapters 3 and 4. The views presented here are based on interviews of people involved in the planning process on both local and regional level as well as authors own observations as participant of budgeting process. Table 5.1 presents the findings of the analysis.

Table 5.1. SCALE analysed in the framework of the study

Objective	SCALE
Strategic direction	Based on BSR process, trends/forces of the business environment Outcome optimised from the corporate point of view
Resource allocation	Management promotes and directs towards inter department co-operation Cycle time based on business cycles. SC 2 and LE 4 quarters. On business/organisation level focus on profit, including support services Follow-up of investment benefits might be improved
Continuous Improvement	Both internal and external benchmarks searched Process for continuous reporting of budget deviations
Congruent behaviour	Financial plan based on bottom-up consolidation of strategic opportunities communicated top-down Both financial and non-financial measures used. Measures decided individually. Development needed
Add value	Pro-active budgeting based on continuous Business Strategy Review process Budgeting part of HP's Global Integrated Planning System (GIPS)

Strategic Direction and Rational Resource Allocation

On a high-tech business characterised by short cycles it is vital to sense the latest developments and focus resources so that the opportunities will be gained. The strength of HP's model is not just creating just an effective financial planning model but integrating several planning processes that enable different views on environment. Short and medium time frame planning are very closely linked to long-term strategic objectives. The Business Strategy Review process collects continuously information on trends and forces shaping the business environment. Because of the effective

information collecting and processing model the financial planning decisions do not have to be based on solely analysing and extrapolating historical data. The approach makes the nature of planning more pro-active.

As stated earlier in this chapter, one of the starting points for the development of SCALE has been realisation of corporate management's strategies. Strategic guidance and optimising effectiveness through resource allocation are the key objectives of the process. As the financial plan is directly rolled down from the corporate level down to local level, high level management is able to focus resources on the areas so that the outcome will be optimised from the corporate point of view. The process structure supports management's role as horizontal integrator and enables it to observe and prevent sub-optimised decisions, e.g. creating cost savings in one organisation by increasing cost in another. However, a few of the people interviewed stated that quite often the origin of process improvement at HP is in the technological improvement and in many cases more effort could have been placed in the calculation and follow-up of investment benefits. Situation is typical especially for high-tech engineering companies where the focus of business is developing new and innovative solutions. The engineering mindset is also reflected in the investment process and thus the technological improvement and direct benefits are given more weight than longer-term follow-up of investment's consequences. This does not mean that many of the investments would be ineffective but rather that it could be possible to increase learning in the investment process by identifying all indirect costs and benefits of the investment more effectively.

Although, at first look HP's SCALE process might seem to be one coherent structure for corporations financial planning it is rather a combination different approaches within same planning framework. Since corporation's businesses are very autonomous SCALE has been designed to allow quite large amount of variations and flexibility and the approach selected can vary quite a lot from one organisation to another. The most important common nominators for the processes across businesses are the close linkage to other planning processes, top-down approach in assigning budgets and the target consolidation process but the approach in calculating and reviewing target figures varies. Although, the budget figures are, according to SCALE, reviewed between 6 months many organisations update the budget figures

actively more often. On the other hand, so-called infrastructure organisations, such as administration and IT, see spring SCALE as an opportunity to review and update figures on high level if there seems to be a need and concentrate more effort during fall in estimating the outcome for a fiscal year. Although, the flexibility and ability to adjust planning process in accordance with organisations' needs have many positive consequences it also creates challenges, especially in small countries. In large entities there are clear boundaries between different businesses while in small entities the financial analysts support financial planning for various organisations.

One of the starting points for implementation of SCALE was breaking away from the rigid once a year budgeting process and bring financial planning closer to realities of market environment. However, creating a planning framework that encourages people to continuously seek more efficient practices can not be achieved only by shortening planning cycle. It is more an issue of changing the attitudes of every person working in the organisation. After this has been achieved the responsibility of planning framework is to provide tools and benchmarks for analysing the process as well as methods of communicating the possibilities for improvements to organisation levels above.

As presented earlier SCALE is a part of larger planning framework. Although the actual consolidation of budgets is done twice a year the managers are, at least to some extent, exposed to the financial consequences of their decisions through whole year. Achievement of continuous process improvement is more an issue of the change in management that was discussed in chapter 5.3.3.

Achieving Congruent Behaviour with Process That Adds Value to Time Invested in It

The structure of SCALE process enables corporate management to guide organisations so that the outcome for the whole company will be optimised. The trade-off that has to be made is the choice between operational management's ability to affect the contents of the budget and top management's authority to focus resources according to their view. On one hand, operational management does not see the holistic picture of company's global business structure and on the other hand budget does not have possibilities to succeed if it does not have operational management's

support and commitment. If the financial plan is seen as imposed by top management the operational management's motivation on achieving it can be reduced significantly. However, as it was argued in chapter 4.5 even in process based on a time consuming negotiation cycles the realistic possibilities of operational management might be rather limited. The problem is how to create budget commitment without losing time in unproductive and time consuming negotiations. Because of the flexibility of SCALE the amount of local involvement varies from business to business. However, after the experiences of the first full SCALE process cycle it can be argued some effort should be invested in developing the budget commitment. Although, it cannot be said that local managers do not have obligation to meet the budget many of them feel they should have more influence in the process. Of course, it is not correct to say that local management does not have any influence in budgeting since their input and the local business environment are base for the BSR process that, on its half, creates the base for SCALE as figure 5.2 illustrates. Since the financial plan is based on global input the linkage between information provided for BSR and budget communicated in SCALE might not be very clear. According to a person involved in the SCALE process development it is usually even impossible to show clear connection between these to processes although they deal with the two sides of the same coin.

The issue of guidance and setting goals for the management is very closely related with the overall performance measurement system of the company. In chapter 3.3 it was argued that the use of budgets both in individual performance measurement as well as in planning and estimating the future can lead to a situation of conflicting objectives where the best outcome for an individual is not the most profitable for the company. At HP the performance measures are set individually for each person in evaluation discussion between the person and his closest manager. Although, it is difficult to define any standard set of measures managers' objectives usually consist of both financial and non-financial measures. The linkage to the budgeting process depends on how the evaluated person and his manager define it. This approach is rather well in accordance with the presented budgeting model. However, in some cases it has been noticed that the selected financial measures not always congruent with the goals set in budgeting process. Although, based on interviews these are probably *individual cases* some conclusions can be drawn. These cases suggest that

the views of top and middle management are not always completely congruent on the direction businesses are going. Often the information on top management's view is available for the middle management in form of Hoshin and Business Strategy plans. According to the interviews the reason why these sources are not utilised is not that middle management would see them as irrelevant but rather the information has not been easily enough available when decisions on measurement have been made. Therefore, it could be suggested that the communication on the backgrounds of the resource allocation decisions would be made more effective.

Large part of the communication on SCALE stresses the increased quality of budgeting while the resources invested in the process are decreased. Both the pro-active view to budgeting and the tight linkage to other planning processes contribute to this objective. Therefore, the process effectiveness is highly dependent on the co-ordination. Since the process requires huge amounts of information to be processed on many organisation levels within limited time frame it is vital that all participants are aware of the schedules and responsibility structure in time before process is started. Inefficient communication and process co-ordination in a tightly scheduled process will cause rework, conflicts and frustration that will lead to lost time and decreased quality of budget.

6. Summary and Conclusions

During the last decades quite a few factors have influenced companies' competitive environment. Rapid advances especially in the information processing and communication technology have created new challenges but also possibilities for organisations. Information and intellectual capital have become core assets of many companies. Physical assets form only a fraction of such company's market value. The rest comes from utilisation of non-fixed assets. An interesting fact is that this does not concern only information technology and marketing companies such as Microsoft and Coca-Cola but also huge manufacturing giants like GE and ABB.

The external factors have lead into changes in the way companies are structured and what is considered to be their core competence. One of the changes is thinking in terms of processes instead of functions. The basic unit of process-based organisation is not a department or function but different value-adding processes. The goal is to make the flow of physical goods as well as information through the company as smooth and flexible as possible. In fact as the importance of knowledge is increasing understanding the laws of information transfer and transformation within an organisation becomes vital for effective management. The process-based thinking and seeing information as company's key asset are incorporated by the theory of the N-form organisation. A visible difference to multidivisional M-form organisation is that forming a clear and structured organisation chart is difficult, if not impossible, in an N-form organisation. The key to understanding its dynamics is not the reporting responsibilities between people and organisation levels but in information flows. People are more like junctions in a flexible information network.

Although, the organisations have changed a lot since 1950's the budgeting methods have changed a lot less since that time. In many companies budgeting framework is still based on assumption of fixed hierarchies that are typical for the M-form organisation. Because of this financial planning is seen more as a restrain and barrier for business instead of supporting structure. Therefore, it has seen appropriate to develop a budgeting model that better aligns with the realities of information based organisation. Appendix C summarises the budgeting framework used in this study.

Before it is possible to discuss about the structure of a budgeting model it is necessary to define what are the objectives set for the process. It has been noticed that some of the objectives of traditional budgeting model are conflicting with each other. For example, if a budget is used both in making forecasts of future performance and in evaluating managers' performance there is already a built in bias in the process. A manager who knows that his salary and promotion are, at least partly, depended on how the budget is achieved has personal motives to distort the figures in his favour. Therefore, it is necessary to define the objectives so that instead of being conflicting they support each other. The objectives defined for budgeting in this study are presented in the first column of Appendix C.

The next step in defining better budgeting model is to analyse existing models in relation to the defined objectives. This is presented in the second and third column of Appendix C. The biggest problems of traditional budgeting result from its close linkage to hierarchical organisation structure. The budgeting information flow is dependent on the official command line and moving the information from the bottom of the organisation only once requires a lot of time and effort. As the size of the company and thus the number of people involved increases the structure becomes slow and difficult to manage. It is impossible to even think that such process would be gone through more than once a year. However, a planning horizon of one year is often too long for a company operating on fast paced market. The budget date might be obsolete after the first quarter of the year. Furthermore, the budgeting system often emphasises too much the importance of historical cost data and concentrates in calculating and reporting variances. Instead it should concentrate more in looking forward and developing solutions for making processes more effective and efficient.

However, the key to an effective financial planning framework is to remember that it should not be developed in isolation from company's other processes. It has to be linked to the structure and realities of the core processes and support them. Choices made in the strategic planning as well as in structure of manufacturing have to be reflected in financial planning. A major part of a flexible budgeting system is a communication network that enables dialogue between all people taking part in budgeting. Communication channels cannot be restricted only to official command lines since they are often too slow and part of the information is usually lost or

distorted. Furthermore, the importance of planning culture and people's attitude towards budgeting cannot be overemphasised. The planning framework has to be able to offer right tools and information channels but the will to use them has to come from the people responsible for the actual planning.

The goal of the case study was to reflect the framework to a real life process and analyse Hewlett-Packard's SCALE financial planning process. Many of the arguments presented during the SCALE implementation were similar to the arguments supporting the N-form organisation's flexible budgeting process. Although, as a manufacturing company HP is not a school book example of an N-form organisation their needs for budgeting framework are quite similar. According to case study's findings many of the characteristics of presented framework can be identified. The strategic coherence that was one of the starting points for SCALE's development is achieved rather well since budgeting is very closely linked to larger planning structure. Also the process timing is much closer to the operational time frame that was another objective.

Since HP is a global organisation the budgeting can be observed from several organisation levels. The findings are of course different depending on the point of view the observer has. During the study it became obvious that the views to SCALE's problems change dramatically if one moves from local to regional level. Locally the main concern in the change from old budgeting model to SCALE was decreasing possibilities to affect the flow of the process as well as outcome of budgets. This of course then affects the operational level's commitment to budgets. Although, budgets are still seen as obligating guidelines for operations their quality and reliability are maybe questioned more on local level. On the other hand, from regional and corporate point of view these same changes have resulted in increased efficiency of the budgeting process as well as overall strategic control. It is assumed that these would also result as increased quality of budgets but at the time of the case study it is too early to evaluate this. The biggest areas for SCALE's further development are probably in building congruent view on the issues and problems of the budgeting. 'Making them see what we see', as one of the local managers presented the issue. Another challenge is to co-ordinate process structure and information flow better.

Despite the changes in the external environment financial planning will always be an inseparable part companies' operations. However, it should not be seen as a static structure but as a management tool that flexibly adapts to organisation's requirements. Budgeting should enable a dynamic control structure that changes in accordance with the internal and external reporting and planning needs. Since these needs are unique for each company a completely universal solution cannot be defined. However, the ideas presented in this paper can hopefully give some guidelines on what kind of issues should be handled in forming a financial planning model.

References

Allen, David 1994. Time for Change, *Management Accounting*, June 1994. 30

Anthony, Robert & Govindarajan, Vijay 1995. *Management Control Systems.* Richard D. Irvin, Inc, United States.

Arwidi, Olof & Samuelson, Lars A. 1993. The Development of Budgetary Control in Sweden – a Research Note, *Management Accounting Research*, 1993, 4. 93-107.

Bartlett, Christopher A. & Ghoshal, Sumantra 1993. Beyond the M-Form: Toward a Managerial Theory of the Firm, *Strategic Management Journal (Special Issue),* Winter 1993, Vol 14. 23-46.

Bunce, Peter & Fraser, Robin & Woodcock, Lionel 1995. Advanced Budgeting: a journey to advanced management systems, *Management Accounting Research*, 1995, 6. 253-265.

Champy, James 1995. Reengimeering Management: The Mandate for New Leadership, *Industry Week*, February 20, 1995. 33-42.

Chandler, Alfred D. jr 1962. *Strategy and Structure: Chapters in the History of the Industrial Enterprise*. The MIT Press, Cambridge, Massachusetts.

Conolly, Tim & Ashworth, Gary 1994. An Integrated Activity-Based Approach to Budgeting, *Management Accounting*, March 1994. 33-37.

Cyert, Richard M. & March, James G. & Starbuck, William H. 1961. Two Experiments on Bias and Conflict in Organisational Estimation, *Management Science*, 7. 254-264.

Drury, Colin 1992. *Management and Cost Accounting.* Chapman & Hall, London.

Drucker, Peter F. 1995. The Information Executives Truly Need, *Harvard Business Review*, January – February 1995. 54 – 62.

Emmanuel, Clive & Otley, David & Merchant, Kenneth 1990. *Accounting for Management Control*, 2nd ed. Chapman Hall, London.

Evans, Philip B. & Wurster, Thomas S. 1997. Strategy and the New Economics of Information, *Harward Business Review*, September – October 1997. 71-82.

Freeman, Tom 1997. Becoming a Process-Based Organisation: Travelling the Road to Excellence, As Easy as ABC, Issue 31, *http://www.abctech.com/library/Issue31/31_process.htm.*

Freeman, Tom 1998. Transforming Cost Management into a Strategic Weapon. Presentation 23.4.1998 at the Hong Kong Industrial Technology Center. *http://www.cam-i.org/columns/transforming.pdf*

Gleick, James 1987. *Chaos*. Viking Penguin.

Godfrey, James T. & Leitch, Robert A. & Steuer, Ralph E. 1996. Budgeting for Multiple Objectives, *Management Accounting*, January 1996. 38-41.

Grundy, Tony 1995. Beyond Numbers Game: Introducing Strategic Cost Management, *Management Accounting*, March 1995. 36-37.

Hammer, Michael 1990. Reengineering Work: Don't Automate, Obliterate, *Harvard Business Review*, July-August 1990. 104-112.

Hedlund, Gunnar & Nonaka, Ikujiro 1993. Models of Knowledge Management in the West and Japan. In Lorange & Chakravarty & Roos & Van de Ven (eds.). *Implementing Strategic Processes, Change, Learning, And Cooperation.* Basil Blackwell, London. 117-144.

Hedlund, Gunnar 1994. A Model of Knowledge Management And the N-Form Corporation, *Strategic Management Journal (Special Issue)*, Summer 1994, Vol 15. 73-90.

Henderson, Ian 1997. Does Budgeting Have to Be So Troublesome, *Management Accounting*, October 1997. 26-27.

Hiromoto, Toshiro 1988. Another Hidden Edge – Japanese Management Accounting, Harvard Business Review, July-August 1988. 22-26.

Hope, Jeremy & Fraser, Robin 1997. Beyond Budgeting... Breaking through the barrier to "the third wave", *Management Accounting*, December 1997.

Johnson, Gerry & Scholes, Kevin 1993. *Exploring Corporate Strategy*. Prentice Hall, New York.

Kaplan, Robert S. & Cooper, Robin 1997. *Cost & Effect, Using Integrated Cost Systems to Drive Profitability and Performance*. Harvard Business School Press, Boston, Massachusetts.

Kroll, Karen M. 1997. Budgeting: More Than Just Crunching the Numbers, *Industryweek*, August 18, 1997. 110-114.

Laudbacher, Robert J & Malone, Thomas W. & the MIT Scenario Working Group 1997. Two Scenarios for 21st Century Organisations: Shifting Networks of Small Firms, MIT Initiative on Inventing the Organisations of 21st Century, Working Paper, *http://ccs.mit.edu/21CWP001.html.*

Mills, Roger 1995. Strategic Value Analysis: Linking Finance and Strategy, Management Accounting, April 1995. 42-44.

Newing, Rod 1994a. Advanced budgeting requires an advanced management system, *Management Accounting*, December 1994.

Newing, Rod 1994b. Out with the Old, in with the New, *Accountancy*, July 1994. 49-50.

Shank, John K. & Govindarajan, Vijay 1993. *Strategic Cost Management, The New Tool for Competitive Advantage*. The Free Press, New York,

Simmonds, Kenneth 1981. Strategic Management Accounting, *Management Accounting,* April 1981. 26-29.

Simmonds, Kenneth 1982. Strategic Management Accounting for Prising: A Case Example, *Accounting And Business Research*, Summer 1982. 206-214.

Simmonds, Kenneth 1986. The Accounting Assesment of Competitive Position, *European Journal of Marketing*, 20. 16-31.

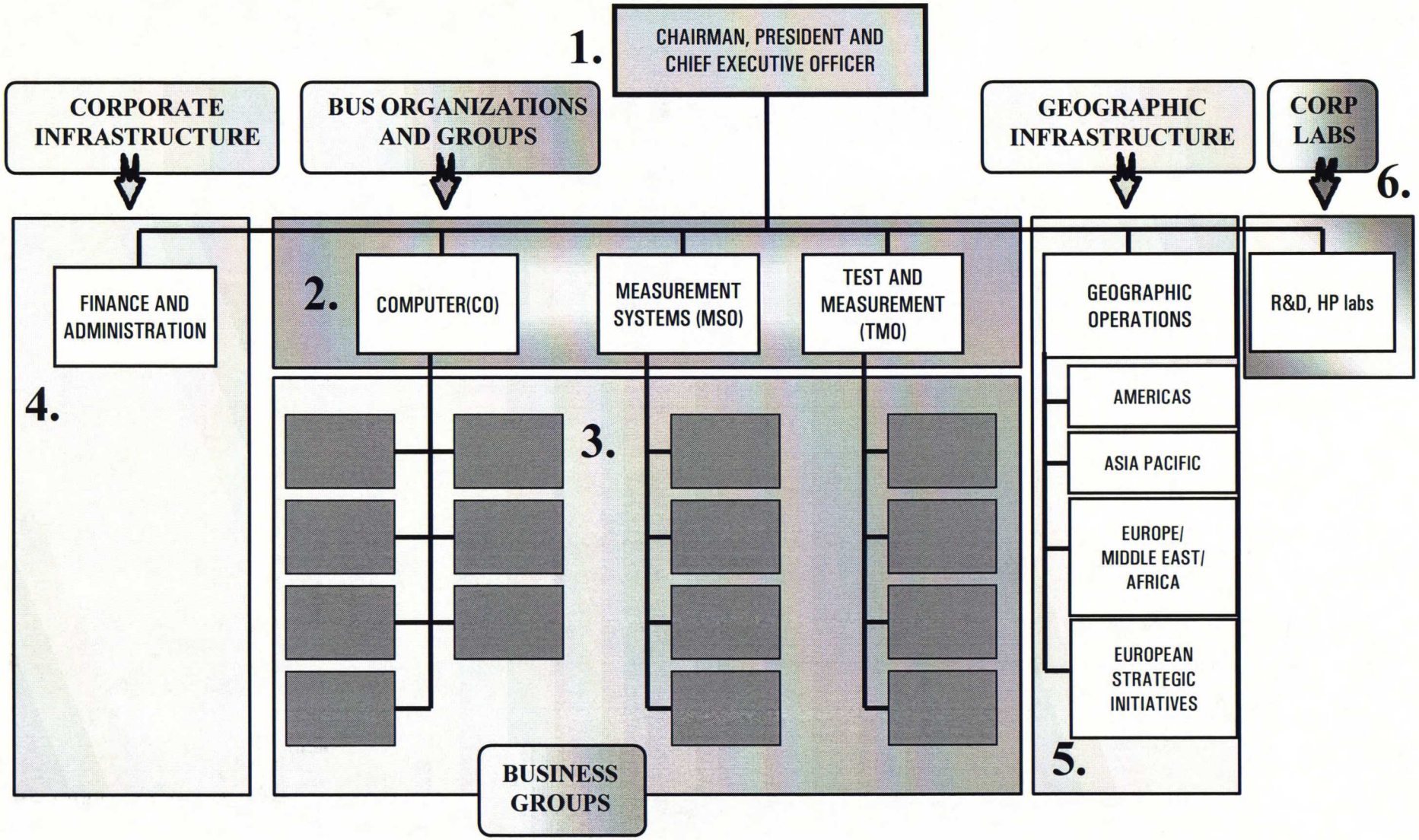
Sveiby, Karl-Erik 1994. *Towards a Knowledge Perspective on Organisation*. Doctoral Dissertion. Department of Business Administration, University of Stockholm.

Sveiby, Karl-Erik & Lloyd, Tom 1987. *Managing Knowhow, Add Value... by Valuing Creativity*. Bloomsbury Bublishing Limited, London.

The HP Way, 1997. Hewlett-Packard Company.

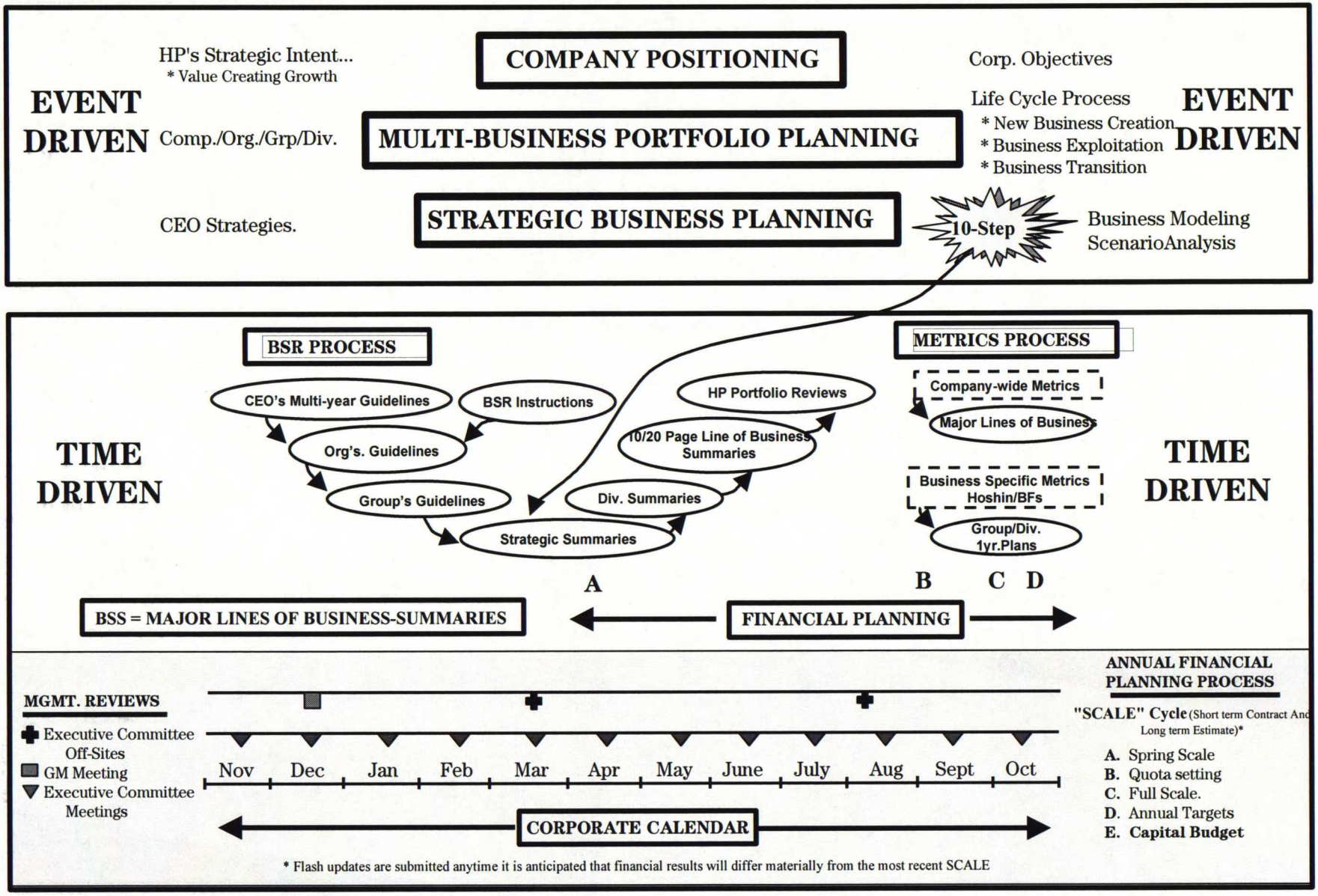
Appendix A

Hewlett-Packard Corporate Organisation



Appendix B

HP's Global Integrated Business Planning System



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Appendix C: The budgeting framework used in the study.

Objective	Traditional Budgeting	Problem	Flexible Budgeting	SCALE
Strategic direction	Historical extrapolation	Not linked to strategy	Link budgets to mission, vision and strategy	Based on BSR process, trends/forces of the business environment
	Arbitrary cuts	Wrong services cut	Decide explicitly between competing demands	Outcome optimised from the corporate point of view
Resource allocation	Functional organisation	Depends on negotiation skills	Manage process across departments	Management promotes and directs towards inter department co-operation
	Annual process	Inappropriate cycle times	Accommodate different cycle times	Cycle time based on business cycles. SC 2 and LE 4 quarters.
	Cost element focus	Outputs of indirect not visible	Focus on task outputs and productivity	On business/organisation level focus on profit.
	Investment benefits understated	Surplus resources hidden	Ensure benefits are realised	Follow-up of investment benefits might be improved
Continuous Improvement	Incremental improvement	Internally driven	Drive improvements towards externally-based targets	Both internal and external benchmarks searched
	Fixed and variable costs	Fixed costs not reduced	Make waste visible and address it	Process for continuous reporting of budget deviations
Congruent behaviour	Predominantly Top-Down	Lack of commitment	Improve consensus building and decision making	Financial plan based on bottom-up consolidation of strategic opportunities communicated top-down
	Financial measures	Distorts operational decisions	Use a balanced set of performance measures	Both financial and non-financial measures used. Measures decided individually. Development needed
Add value	After event reporting of actuals	Variances not prevented	Emphasise planning, improvement &prevention	Pro-active budgeting based on continuous Business Strategy Review process
	Bureaucratic, time consuming	Wasted opportunity	Integrate budgeting with management process	Budgeting part of HP's Global Integrated Planning System (GIPS)

Adapted from: Newing, Rod. 1994. Out with the Old in with the New. *Accountancy July 1994.*